



PCE-LES 500 PORTABLE LED STROBOSCOPE

USER MANUAL



WARNING: READ BEFORE OPERATING UNIT

Operation

- Viewing of this light by people with photosensitive epilepsy may trigger epileptic seizures.
- Eye damage may result from direct viewing of the lamp used in this unit.
- Do Not Operate the unit in Explosive Areas.

Servicing

- For repair, consult factory or authorized service center.

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| Introduction

The PCE-LES 500 Metal Surface Inspection Stroboscope is a compact industrial surface inspection spotlight, Widely used in packaging, printing, paper and other industries.

The PCE--LES 500 has the following features:

- Operates from a 12V to 14 Volt DC power source.
- Using encoder knob to adjust the flash rate.
- Built-in memory feature that automatically updates and stores its last used control setup, Control parameters are automatically stored as long as they remain unchanged for a 8 seconds period.
- Automatically stop flash when timing over.
- Internal or External trigger mode.
- Accepts remote synchronization (trigger) signals.
- Variable 0- 360 degree External Trigger Delay.
- Built-in low battery indicator.
- A large,bright easy to read LED display.

Technical data

- Supply Power: Rechargeable NiCd cells,14.4 VDC 2.8 Amp hour.
- AC Adapter:Input:AC100V~240V,50~60Hz.
- Display led:5 digits 7 segments.
- Mode:Internal and External trigger mode.
- Flash rate: 50.0 f/m-36000f/m, resolution 0.1.
1.00f/s -600.00f/s, resolution 0.01.
- Phase delay:0-360 degree, resolution 1° .
- Flash timing: maximum 9999 s.
- Trigger sensor supply:12V 50mA .
- External pulse source: > +2.5v pk, 20μsec min pulse width.
- Dimension: 270mm×140mm×130mm.

II Operation

The PCE-LES 500 has two trigger mode.

Internal Trigger Mode: In this mode, the rate of strobe flashing is set by the flash rate knob on the control panel
Mode display ‘-F00-’

External Trigger Mode: In this mode, the rate of strobe flashing is set by sensor signal, two kinds of external trigger mode, display ‘-F01-’ and ‘-F02-’

Control panel or display panel

INT • Internal trigger mode indicator

EXT • External trigger mode indicator

rpm • Light on: Flash rate per minute

• Light off: Flash rate per second

deg • Phase delay indicator

 • Display window



• **Trigger Mode Key:** Press key to change trigger mode



• In Internal Mode: Press key to change the units of flash rate, from Flashes/Min to Flashes/Sec

• In External Mode: Press key to select external parameters



• External Trigger Input Connector



• Power cord Input Connector



• Switch key: On/Off



- Rate/Intensity Control Knob.



- Handle switch.

How to change flash rate

Change with Knob: Rotate knob to change flash rate

Rotate quickly change fastly

Change trigger mode

Press key 'SIGN', display from '-F00-' to '-F02-', means as following:

- F00- • Internal trigger mode
- F01- • External trigger mode, Flash once a sensor signal. • *Flash rate equals to sensor signal rate*
 - Phase delay: Press Mode key to set delay degree, display 'P ***'
- F02- • External trigger mode, Flash rate determined by sensor signal and two parameters('C' and 'd') • *Flash rate equals*

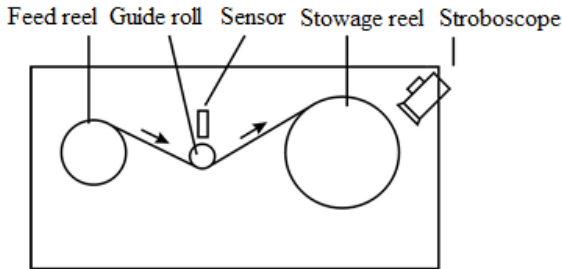
$$r = r_s \times \frac{C}{d}$$
 - Press Mode key to select parameters. *r : flash rate*
 - Parameter 'C': length between two continuous sensor signals, units:mm *r_s : sensor signal rate*
 - Parameter 'd': length between two continuous objects, such as printing pattern *C : Parameter C*
d : Parameter d

External Trigger Phase Delay

In Mode 'F01', Press key 'MODE', Stroboscope display 'P 0', Then press key '+' or '-' or rotate knob to change the phase delay degree.

Extern Trigger Mode F02

In this trigger mode, trigger sensor should installed as following:



User should set two parameters ‘C’ and ‘d’, when sensor signal input, stroboscope calculate flash rate and start flashing.

Flash rate equals:

$$r = r_s \times \frac{C}{d}$$

r : flash rate

r_s :sensor signal rate

C : Parameter C

d : Parameter d

Key ‘MODE’ select parameter ‘C’ or ‘d’

Key ‘+’, ‘-’, ‘ $\times 2$ ’, ‘ $\div 2$ ’ or Knob change data

Key ‘SIGN’ confirm the data and exit set page to display flash rate

When flash rate is not same of the object move rate , user can fine adjust the parameter ‘C’ with rotate knob

Trigger Input Connector Pin Assignments

- Pin1: Sensor Power supply ,DC 12V 50mA provided by stroboscope
- Pin2: 0V, Power ground
- Pin3: External trigger input
- Pin4: No use



III PAUSE Function

User can set a timer. When the timer is over, stroboscope display 'PAUSE' and flash stop. Press the handle switch to continue flash.

Set Timer: Press key 'MODE' before power on, hold the key until display '--t--' after power on. Release key 'MODE', stroboscope display 't x'.

The unit of timer is second. Range from 0 to 9999.

When the timer value is set to zero, the PAUSE function is invalid.

Factory setting is 5 minutes.



IV Intensity Control

The PCE-LES 500 is available with an optional integrated intensity control for adjusting the lamp intensity over a range of 0 to 100. Press the encoder Knob until display 'L x'. Release the knob. Rotate the knob to change the intensity value. Press the encoder knob once again to exit intensity control mode.

V Charging the Battery

When PCE-LES 500 display blinking or display 'LLLLL', the NiCd Battery should be changed immediately.



Charging need about 3 hours. When the LED indicator turns green, charge complete.

CAUTION: It is necessary to use the original adapter.

VI Packing list

- 1 x Stroboscope / Stroboscope Light PCE-LES 500
- 1 x Ni-MH battery charger
- 2 x Ni-MH 3000 mAh battery
- 1 x 4-pin coupling
- 1 x rubber grommet
- 1 x External trigger sensor
- 1 x Carrying case
- 1 x Operating instructions

VII Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.



VIII

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