

The COOLLED 2600 UV LED Light Curing Pen produces bursts of high intensity UV Visible light capable of curing many light curing products within seconds.

This low cost, light weight and safe to use product opens up endless possibilities for UV curing

- Adhesive bonding of small components
- Wire tacking
- Component support
- Glass, metals and plastic bonding

### Getting started

Operation of the pen is very simple.

1. Plug mains a.c. power supply into convenient mains socket.
2. Plug pen into flying lead
3. Switch on power
4. After an initialisation period of 10 seconds, the pen will be ready for use.
5. With the indicator LED on the side on the pen showing green, a single press of the button starts the 5 second burst of UV light.
6. The 5 seconds burst is followed by a 15 seconds lock out period when the pen cannot be operated (necessary to prevent the LEDs from over heating). The indicator LED turns red during this period.
7. After the 15 second lock out period, the indicator LED will change to green and the pen will be ready for another 5 seconds burst.

### Curing materials

**It is important to position the end of the pen as close as possible to the adhesive being cured to ensure that the maximum power is delivered to initiate the photochemical reaction (the curing).**

Any adhesive which accidentally gets on the glass window should be removed prior to operating the pen.

Not all UV curing adhesive will be suitable for use with the pen due to the wavelength being produced (peak at 395nm). Most UV Visible materials should be fine. However certain UVA epoxies which require a strong peak at 365nm will not cure properly.



### Specialist applications

The pen can be operated in three modes, controlled by an internal microprocessor

1. Fast 5 second burst of full power (followed by 15 seconds lock out)
2. Low stress curing by gradual power increase  
i.e. 1 sec 25% power, 1 sec 40% power, 4.25 sec 100% power (followed by 15 seconds lock out)
3. Longer 10 second burst of full power (followed by 30 seconds lock out)

See Mode Settings on page 2 for instructions on how to change mode.

## Mode Setting

The pen can be programmed by the user to operate in one of three modes.

Normal operation is **Mode 1**, the 5 secs on and 15 secs off.

Fast curing of adhesives can introduce stresses which with delicate substrates might cause unwanted distortions. The pen can be switched into a Low Stress setting, **Mode 2**, by the following sequence.

- a. Press button to active UV irradiance and wait until the 15 second lock out period indicated by the green LED turning red.
- b. While the red LED is on, press the button 3 times in quick succession. The LED will flash twice in orange to indicate the acceptance of the 3 pushes. Press the button a further 2 times to change to mode 2. Acceptance is acknowledged by a double flash in orange followed by a return to red.
- c. While in mode 2, the led will flash off every 2 seconds
- d. To return to mode 1, repeat the above but after the 3 pushes have been acknowledged in b., press the button a single time to revert to mode 1.
- e. While on mode 1, the led will not flash

For applications which require a longer period of irradiation, **Mode 3** gives 10 secs on and 30 secs off. To set into Mode 3, the sequence is similar

- a. When pen is in lock out (i.e. the LED is red), press the button 3 times in quick succession. The LED will flash twice in orange to indicate the acceptance of the 3 pushes. Press the button a further 3 times to change to mode 3. Acceptance is acknowledged by a double flash in orange followed by a return to red.
- b. While in mode 3, the led will give a double flash off every 2 seconds
- c. To return to either mode 2 or 1, repeat the above but after 3 pushes have been acknowledged in a., press the button a single time for mode 1 or twice for mode 2.

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## Optional Battery Pack

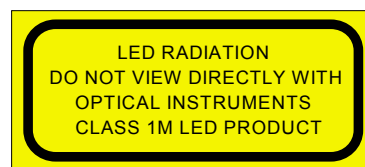
The pen is normally powered from a main plug style power supply connected via a cable. To create the levels of light required for fast curing, high peak currents are required. While batteries are capable of delivering these currents, their size would make the pen cumbersome and difficult to use.

For applications in remote locations, an optional rechargeable battery pack is available, fitted with a belt clip for ease of use. Charging of this battery pack uses the same mains plug style power supply that is used for mains operation of the pen.

Within the battery pack is a battery status monitor and charger circuit with a bi colour LED indicating when recharging is required.

Battery life (between charging)	8 hours
Recharging time	4 hours

## Safety



This product has been tested by an independent test house and meets the requirements for a Class 1M LED product to IEC/EN60825-1 (2001) under normal operating conditions. A Class 1M product can be summarised as being no risk to the naked eyes or skin but potentially hazardous when viewed close up with magnifying lenses (eye loupes) or if optics are used to collimate the beam.

Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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Issue 4 Oct 2005

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