



L.E.D. Curing Light and Handpiece Light Source System Installation

The **SUNLITE** is a combination curing light and handpiece light source system designed to be permanently installed into the dental delivery unit. The system consists of a wall transformer to reduce input power to low voltage, a power pack to provide regulated operating voltages for the curing light and handpiece illumination, delivery unit tubing and **SUNLITE** curing probe. Since a fair level of familiarity with dental delivery unit mechanics is required for installation, it is recommended that a qualified service technician be employed for this purpose.

Tubing Installation

Handpiece light source tubings are available in various styles and colors to be compatible with dental unit colors and desired handpiece connections. Be certain that the style of tubing is appropriate for the particular application. **SUNLITE** tubing incorporates a special connector designed exclusively for the curing probe assembly and cannot be utilized for any other purpose.

Replace the entire existing handpiece tubings with the appropriate light source or curing light tubings. During replacement, take care not to cut or shorten the electrical wires. The supplied length of wire must be retained. After replacement is completed, install the 1/8x1/8x1/16 plastic tee and air sensing tube assemblies into the drive-air lines at an appropriate position on each tubing not more than 12" from the desired location of the power pack.

Choose one of the tee air sensing tubes. If this particular tubing is for handpiece illumination, plug the tee air tube onto the power pack barbed fitting "TUBING 1" as shown in the diagram. Another illumination tubing may be installed for "TUBING 2". Attach the **SUNLITE** air tube to the "SUNLITE" barb fitting.

Attach the tubing wires to the power pack terminals corresponding to the tee air tube connection. The polarity of the light source wire connections is not important. Be certain that the **SUNLITE** tubing wires are connected to the appropriate terminals and that the polarity is as indicated (white is positive, black is negative). Improper polarity connection will have no adverse effect other than non-operation of the curing light. Plug the wall transformer into an outlet of appropriate voltage and attach the transformer wires to the power pack terminals as shown in the diagram. DO NOT USE a transformer other than that supplied.

SUNLITE Installation

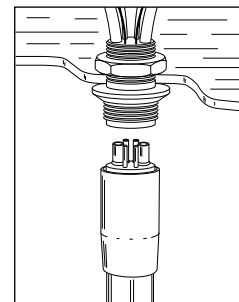
Attach the **SUNLITE** curing probe to the tubing designated for this purpose. No special adjustments to the power pack need to be accomplished since the necessary operating parameters are pre-set at the factory.

The LED array inside the curing probe does not emit heat, however, the device itself operates at elevated temperatures and must be cooled by the drive air to avoid premature failure of the array. The **SUNLITE** is activated by drive air and will not operate without adequate pressure. Although normal handpiece drive air set pressures are more than adequate for curing light operation, it is recommended that the drive air pressure for the **SUNLITE** tubing be reduced to approximately 20 psi.

The **SUNLITE** curing light probe will activate when the handpiece foot control is depressed. An audible tone will sound every 10 seconds and the probe can be de-activated at any time by releasing the foot control.

Delivery Unit Bulkhead "KINC" Connection

Handpiece light source and **SUNLITE** tubings can also be supplied with "KINC" style unit end terminations to be compatible with "KINC" bulkhead connectors factory installed in the delivery unit. To connect this style tubing, simply attach the tubing to the bulkhead connector insuring that the two electrical feedthru pins are included. Attach the bulkhead connector internally to the power pack following the instructions outlined in "Tubing installation".



ISO-C Handpiece Installation

This installation process is used for connections to any brand ISO-C 6 pin style handpiece. Insert the appropriate ISO-C handpiece adaptor into the end of the ISO-C tubing and securely tighten the tubing connector sleeve. Connect the handpiece to the adaptor following the manufacturer's instructions.

Generally, each brand ISO-C handpiece will have an exact operating voltage specification that must be precisely set using a digital multi-meter (DMM). The voltage adjustment controls are located on the topside of the power pack and are turned by using a 2mm hex key. The operating voltage of the lamp must now be set to the value recommended by the manufacturer.

IMPORTANT: Voltage set levels seriously affect the operation of the lamp, especially longevity. **NEVER USE THESE CONTROLS TO ADJUST LAMP INTENSITY.**

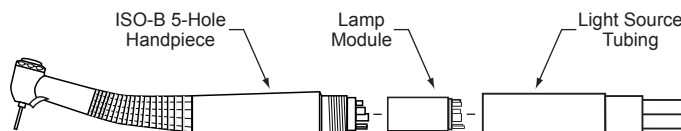
Turn the voltage set control fully DOWN (CCW). Gain access to the lamp connections and attach a digital multi-meter (DMM) capable of measuring 3.00 to 4.20 volts DC. Activate the handpiece line, which should turn on the lamp for 10 seconds. SLOWLY turn the appropriate voltage set control up (CW) until the meter reads the voltage recommended. Repeat the procedure for any of the other power pack positions that are being utilized.

If direct attachment of the DMM to the lamp is mechanically difficult, then connection can be made at the power pack. This method **MUST** compensate for the electrical resistance of the tubing wires. Attach the DMM directly to the appropriate power pack terminal strip connections. With the lamp operating, set the voltage **0.25 HIGHER** than specified **ONLY IF USING KINETIC TUBINGS**. For other brand tubings, set the voltage **AT THE SPECIFIED VOLTAGE**.

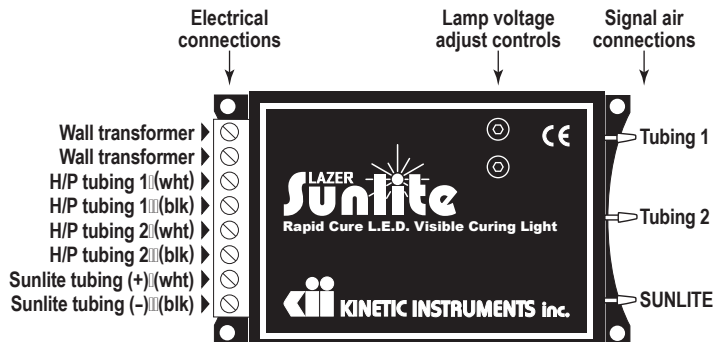
KINC Connected Application - Attach the DMM directly to the appropriate power pack terminal strip connections. With the lamp operating, set the voltage **0.25 HIGHER** than specified.

ISO-B Handpiece Installation

This installation is used for connections to any brand ISO-B 5-hole style fiber optic handpiece. Slide the light source tubing connector nut back to expose the lamp module receptacle. Plug in an **ISO-B** lamp module. Be sure the module is correctly aligned to avoid bending the electrical pins. Plug the handpiece into the lamp module carefully aligning all air and water tubes. Slide the connector nut over the lamp module and tighten securely to the handpiece.



The **SUNLITE** power pack is preset at the correct operating voltage when using the **ISO-B** 5-hole lamp module no matter what brand handpiece is utilized. DO NOT adjust the operating voltage. If the operating voltage has become mis-adjusted, then the foregoing appropriate procedures should be followed to re-set the lamp voltage to 3.35. Activating the handpiece will now activate the light. After stopping the handpiece, a delay of 10 seconds will be noticed before the light will automatically de-activate.



L.E.D. Curing Light - Alternative Installation

Alternative Air Supply Installation

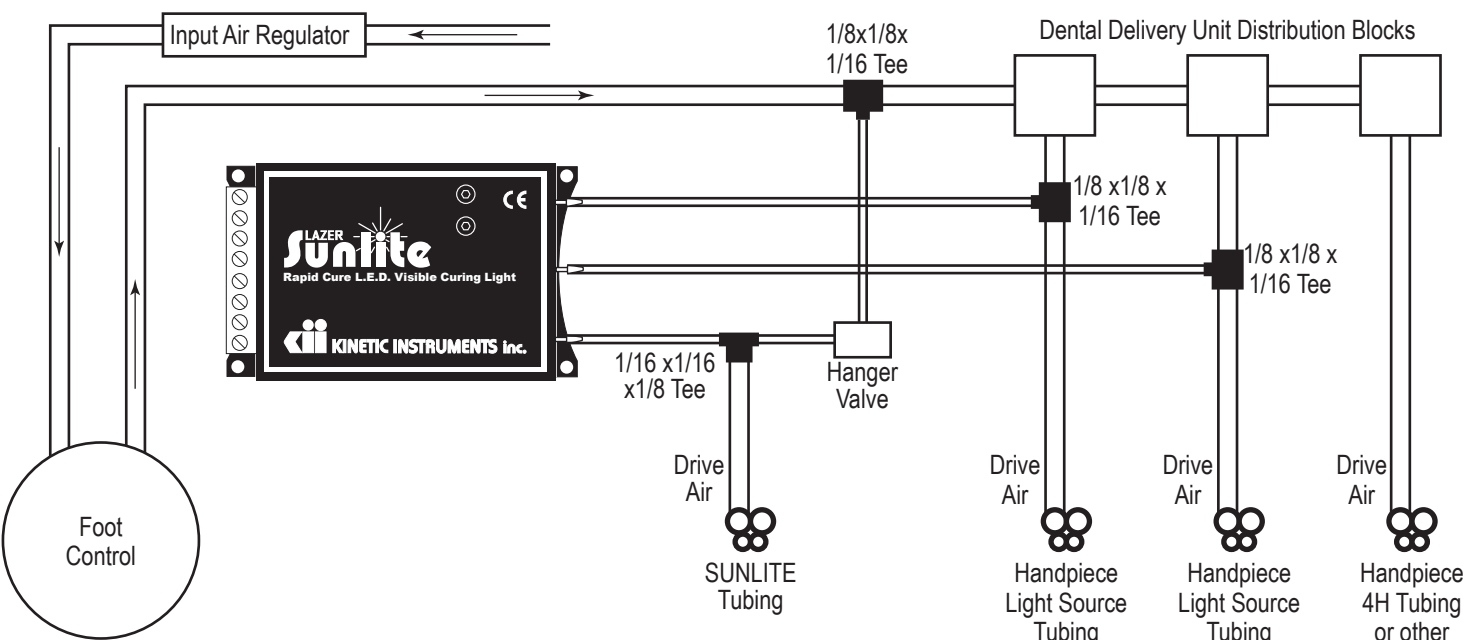
The **SUNLITE** probe should be connected to an air supply as described previously. However, occasionally the dental delivery unit does not have a spare tubing distribution mechanism or it is not desirable to utilize one of the existing handpiece lines for **SUNLITE** installation. In these cases it is necessary to install **SUNLITE** by utilizing an additional handpiece hanger and connecting the system in a slightly different configuration.

Auxiliary Handpiece Hanger

To effectively install **SUNLITE** using the alternative method, it is necessary to obtain a handpiece hanger that is compatible with the dental unit both in mounting style and color. In addition, the handpiece hanger must have a "positive" operation mechanism. That is, when any device in the handpiece hanger is removed, air is permitted to flow through the shutoff valve. This will permit **SUNLITE** to be supplied cooling air in operation.

Air Routing Connections

Normally, when installing handpiece tubings, the dental unit distribution blocks control air supplied to devices. However, in this installation scenario a distribution block is not utilized. Therefore, cooling air to the **SUNLITE** probe is supplied by the foot control and ON/OFF control of this air is determined by the handpiece hanger air shutoff valve.



L.E.D. Curing Light - Multiple Power Pack Installation

Multiple Power Pack Installation

The **SUNLITE** power pack is conventionally built with three output connections to power two F/O handpiece light source tubings as well as one **SUNLITE** curing tubing. Occasionally, a delivery unit application may require more than two F/O handpiece tubings and a **SUNLITE** LED curing tubing to be powered.

In these cases, it is recommended to connect two **SUNLITE** power packs in a parallel configuration. This arrangement is usually preferred instead of installing two different power packs because only one wall transformer is required. If more than four F/O handpiece tubings need to be powered, it is suggested that the factory be contacted to discuss some alternative solutions.

To install the parallel electrical connections, cut a piece of the wall transformer cable long enough to go between the two power packs and connect the cables as shown in the diagram. **SUNLITE** power packs **MUST** be used with the transformer supplied.

