CORDLESS LED CURING LIGHT

LED 55N

Installation, Operation & User Manual

Cordless LED curing light with two rechargeable batteries and a charging base with light intensity tester · Includes troubleshooting and warranty card



DOCUMENT
LED 55N Manual
November 2026 · LED55N-MAN-002

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How to read this manual

⚠ **WARNING** Risk of injury or damage to the equipment. Follow exactly.

ⓘ **NOTE** Information that makes the job easier or the result more reliable.

Technical support

(800) 560-8222

Monday to Friday, 8:00 AM to 5:00 PM Pacific.

SECTION 01

Introduction

Thank you for purchasing the LED 55N. It is a cordless dental curing light that uses the latest LED technology to polymerize composite resin.

Before you start

- The LED 55N must be installed and operated by a qualified dental professional.
- Read this entire manual before installation or operation.
- Wear colored protective glasses to avoid eye injury from the LED light.

Safety symbols



Attention
Important information. Refer to this manual for more information.



High-intensity light
Protect your eyes from the light this product generates.



Type B applied part
Beware of electrical shock or injury.



Class II medical equipment
Double insulated.



Electronic waste
Dispose of properly when you stop using the device.

GENERAL INFORMATION

Technical information

Light range	430–490 nm
Light intensity at the tip	1,200 mW/cm²
Battery life	200 cycles of 10 seconds, or 135 cycles of 20 seconds, in FAST mode
Charging time, full charge	5 hours
Batteries	Two rechargeable lithium-ion batteries
Operating temperature	15–30 °C (60–86 °F). The unit turns off automatically when the temperature at the light guide tip reaches 48 °C (118 °F).
Power input, curing light	5.2 V DC @ 1.0 A
Power input, power supply	90–240 V AC, 50–60 Hz
Pulse rate	10 Hz
Pulse duty cycle	50%
Storage and transport	0–40 °C (32–104 °F) · 0–100% relative humidity · −1,000 to +9,000 m elevation

NOTE Follow the composite manufacturer's instructions when choosing the curing time.

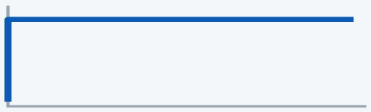
SECTION 02

Features

- Latest LED technology with minimal heat output
- Three preset curing programs
- Cordless, with two batteries that swap in seconds

Curing programs

F FAST



Intensity Time

Full power output for the whole curing time.

P PULSE



Intensity Time

Full power output in 0.5-second pulses.

R RAMP



Intensity Time

Soft start: output rises gradually, then stays at full power to the end.

Fixed timer

Each cure runs for 20 seconds. The light beeps at 10 seconds, then beeps again and stops at 20 seconds.

Sleep and trickle charge

After 3 minutes without use, the handpiece goes to trickle charge if it is in the base, or to sleep mode if it is not.

Two batteries

When one battery runs down, swap in the second, fully charged battery from the base.

Light intensity tester

The charging base has a built-in sensor to check there is enough light output to cure. For a measured reading, use an LED radiometer.

Auto memory

The light keeps your last curing program.

Handpiece indicators

Green: enough power to cure. Red: battery too low to operate. Orange: the handpiece has overheated; let it rest for 10 minutes.

FEATURES

What's in the box



1	Curing light handpiece	LED55HP	2	Charging base	LED55Base
3	Eye protector (oval)	P219	4	Light guide	P109
5	Switching power adapter	LED55N-TF	6	Function switch	LED55-BTN
7	Battery (2)	LED55-BATT			

NOTE Order replacements by the part number shown.

SECTION 03

Installation



Fig. 1 Connect the power adapter

1 · Connect the power adapter to the charging base.



Fig. 2 Remove the contact covers

2 · Remove the protective covers from the battery contacts.



Fig. 3 Batteries in the base

3 · Place both batteries in the base and let them charge fully.



Fig. 4 Attach a battery

4 · Align the battery threads with the back of the handpiece and turn clockwise. Do not overtighten.



Fig. 5 Insert the light guide

5 · Push the light guide into the front of the handpiece. You can rotate it after it is fitted.



Fig. 6 Fit the light shield

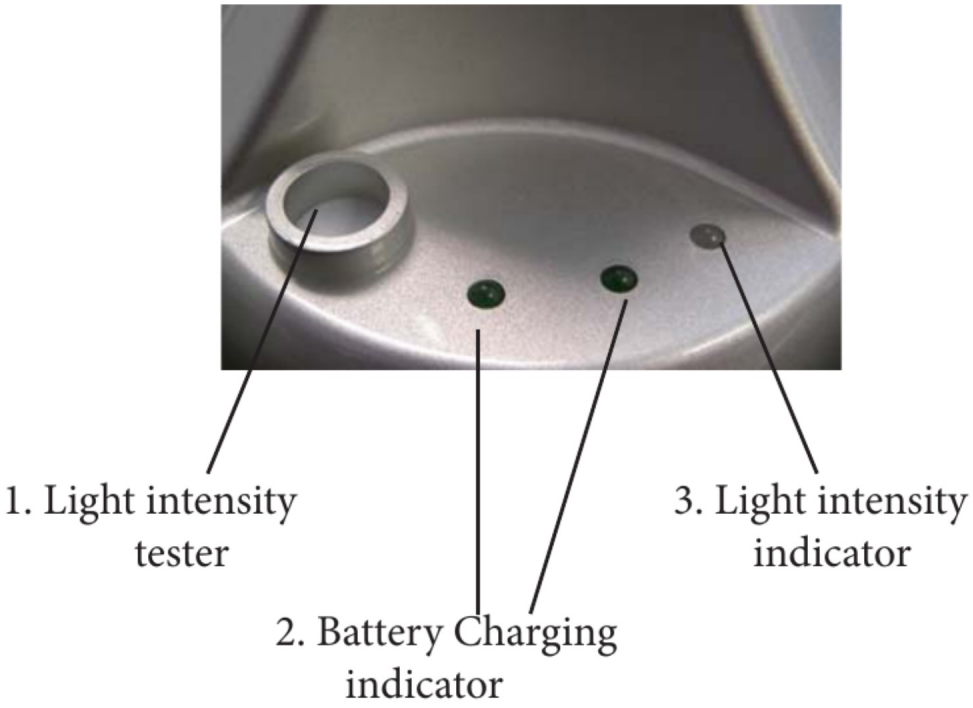
6 · Slide the light shield over the light guide until it sits firmly on the silver chuck.

Charging

- Before first use, charge the batteries for at least 8 hours. After that, a 4-hour charge gives the best performance.
- The base beeps once when a battery is seated correctly and starts charging.
- The battery indicator on the base shows full power when the batteries are fully charged.

INSTALLATION

Charging base indicators



1	**Light intensity tester** Hold the light guide tip on this sensor and cure to check there is enough light output.
2	**Battery charging indicator** Flashing red: the batteries are charging. Solid green: the batteries are fully charged.
3	**Light intensity indicator** Lights only while you use the tester. Purple: enough light to cure. Red: not enough light. Check for a low battery, a dirty or damaged light guide, or a damaged LED.

SECTION 04

Operation

A · Set the curing program

Press and hold the function button for 2 seconds. The programs change once a second: FAST, PULSE, RAMP. Release the button when the one you want is shown on the indicators.

B · Timer

The curing time is fixed at 20 seconds. The light beeps at 10 seconds and stops automatically at 20 seconds.

C · Cure

Press the function button to start the program. Press it again to stop early. When the program ends, the handpiece beeps and the light turns off.

D · Turn off

The handpiece goes to sleep on its own and shuts down all curing functions to save power. To turn it off completely, remove the battery.



Fig. 7 Function button and indicators

⚠ **CAUTION** Never look directly into the light. Use the light shield and colored protective glasses.

SECTION 05

Maintenance

1. Keep the light guide free of resin and other material.
2. If material sticks to the light guide, wipe it off right away with a soft cloth. A clean guide gives better intensity and curing.
3. Sterilize the light guide after each use. It can be autoclaved at 121 °C (250 °F) for no more than 15 minutes. Let it cool before handling.
4. Wipe the handpiece and eye protector with clean water, then disinfect them using standard disinfection procedures.
5. Keep the handpiece in the charging base when not in use.
6. Dispose of lithium batteries according to federal, state and local laws.

⚠ **WARNING** The user should wear colored protective glasses to avoid eye injury from the LED light.

CARE AND WARRANTY

Warranty

1 year limited warranty

TPC products are guaranteed free from defects in workmanship and materials for 1 year from the date of purchase, unless otherwise stated. TPC will repair or replace any defective part at no charge during the warranty period.

Not covered

- Light guides and batteries
- Labor, and shipping to and from TPC
- Normal wear or stains on the surface finish
- Damage from improper installation or misuse

Shipping damage

Claims against the freight carrier must be started when the damaged items are received. Filing the claim is the customer's responsibility.

TPC improves its products continuously and may modify them without notice, without obligation to modify items already made.

Warranty card

Model: LED 55N

NAME _____ EMAIL _____

ADDRESS _____ PHONE _____

CITY / STATE / ZIP _____ FAX _____

HANDPIECE SN _____ BASE SN _____

Complete this card and return it to TPC with a copy of your invoice or packing slip: TPC Dental, 851 S. Lawson St., City of Industry, CA 91748, or email a scanned copy to service@tpcdental.com.

SECTION 06

Troubleshooting

	PROBLEM	CAUSE	SOLUTION
01	**Low battery indicator is solid red**	Battery is low	Charge the battery
02	**Overheat indicator is lit**	The light has overheated	Let it cool for 10 minutes
03	**LED gives off a low light in the base when not in use**	Battery is very low	Remove the battery and charge it on its own for 10 minutes or until fully charged
04	**Light guide is loose in the handpiece**	O-ring damaged or missing	Check or replace the O-ring
05	**Light changes modes on its own**	Function button is stuck in	Press and release the button and check it springs back
06	**No mode or status lights**	Battery is drained Dirty battery contacts Battery is worn out	Charge the battery Clean the contacts Replace the battery
07	**Base does not beep when batteries are placed**	No power to the base	Connect the power supply to the base
08	**Intensity indicator on the base shows red**	Debris on the light guide Not enough battery power	Clean the light guide Charge the battery
09	**Battery is tight and will not fully attach**	Battery was dropped and its threads are dented	Replace the battery
10	**Halo pattern in the light**	Cracks in the light guide fiber	Replace the light guide

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