

# *Klas-S*

## Multiple Treatments LLLT Unit



# User's Guide



## The Smartest LLLT Unit



Innovative optic design w/  
anti-reflection coating glass



Vandal resistant stainless  
steel pushbutton switch

All stainless steel robust construction  
w/ compact assembly



Konftec's IC functions with  
full protections & APC  
(Automatic Power Control)



Powered by 3x AAA batteries

English

Getting started/ Using Klas	2
Specifications	3
Therapy protocol	4
Tips and troubleshooting	8
Safety and cleaning	9

# Getting started

Install your Klas-S with the included batteries and begins to get started low level laser therapy (LLLT).

---

## Using Klas-S

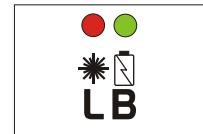
Klas-S can be used for treatment of diseases and conditions, follow the recommended dosage and treatment time to get the best efficacy. You can also find new information about using Klas-S on the web [www.konftec.com](http://www.konftec.com).

## Using the battery

- ☑ Use the battery that came with your Klas-S or any qualified standard battery or rechargeable battery.
- ☑ If you do not use your Klas for a period of time, be sure to take battery out from your Klas.

## Klas-S81 LEDs' indication

- ☑ Klas-S81 emits the infrared laser, which is invisible. For safety operation, two LED indicators are equipped:
  - Red** LED (L) – Laser output
  - Green** LED (B) – Battery power
- ☑ If **Red** LED (L) is OFF and **Green** LED (B) is ON, please replace the batteries.



# Specifications

## Klas-S Multiple Treatments LLLT Unit

Treatment Time Calculation Table										
Optic Cap-S Laser beam spot size: 3 cm <sup>2</sup>										
Dose (J/cm <sup>3</sup> )	Depth of Tissue (cm)	Energy Loss Factor	Treatment Time (second/minute)							
			Model No.	Klas-S50		Klas-S61		Klas-S81		
			Wavelength (λ)	660nm					808nm	
			LD Power (mW)	50		100		110		
			End Power (mW)	30		60		44		
			Power Density (W/cm <sup>2</sup> )	0.01		0.02		0.015		
				second	minute	second	minute	second	minute	
1 J/cm <sup>2</sup>	Surface	1		100	2	50	1	68	1	
1 J/cm <sup>3</sup>	0.5	0.6772		148	2.5	74	1.2	101	2	
	1	0.4586		218	4	109	2	149	2	
	1.5	0.3105		322	5	161	3	220	4	
	2	0.2103				238	4	324	5	

Remarks: 1) Energy loss is postulated to be linear at 7.5% per mm of tissue.  
2) Treatment time is calculated by Monte Carlo Simulation method.

# Therapy Protocol-1

Disease / Condition	Therapy Time (Minutes)				Frequency (Time/Week)	Dosage (J/cm <sup>2</sup> )
	Model	Klas-S50	Klas-S61	Klas-S81		
	Power Density (W/cm <sup>2</sup> )	0.01	0.02	0.015		
<b>Acne Vulgaris</b>						
Facial Acne		3	2		2~3	2
Neckline Acne		4	2		2~3	2.5
Back Acne		5	3		2~3	3
<b>Aesthetic</b>						
Age Spot		5	3		2~3	3
Cholasma		5	3		2~3	3
Facial Anti-aging		3	2		1~2	2
Scar: Fresh		5	3		2~3	3
Stretch Mark (Melasma): <b>Fresh</b>		5	3		2~3	3
Wrinkle and Fine Lines		3	2		2~3	2
*Therapeutic windows range from typically $\pm 50\%$ of given values.						
**The given values are calculated by point or effective treatment area (3 cm <sup>2</sup> ).						

# Therapy Protocol-2

Disease / Condition	Therapy Time (Minutes)				Frequency (Time/Week)	Dosage (J/cm <sup>2</sup> )
	Model	Klas-S50	Klas-S61	Klas-S81		
	Power Density (W/cm <sup>2</sup> )	0.01	0.02	0.015		
<b>Pain Relief</b>						
Achilles Bursitis		7	3	5	3~7	4
Acute & Chronic Joint Pain; Ankle				9	3~7	8
Acute & Chronic Joint Pain; Finger		5	3	3	3~7	3
Acute & Chronic Joint Pain; Toe		5	3	3	3~7	3
Acute & Chronic Joint Pain; Wrist		8	4	6	3~7	5
Acute & Chronic Joint Pain; Elbow		8	4	6	3~7	5
Acute & Chronic Joint Pain; Knee				11	3~7	10
Arthritis				11	3~7	10
Calcaneal Spur		8	4	6	3~7	5
Carpal Tunnel Syndrome		10	5	7	3~7	6
Frozen Shoulder				11	3~7	10
Herpes Zoster		17	8	11	1~2/Day	10
Herpes Simplex (HSV1)		5	3	3	2/Day	3
Low Back Pain				23	3~7	20
Pain Associated with Facial Palsy		7	3	5	3~7	4
Plantar Fasciitis- Heel Pain		10	5	7	3~7	6
Post Operative Tissue Pain		7	3	5	1~2/Day	4
Sprains and Strains				11	3~7	10
Tennis Elbow (Epicondylitis)		8	4	6	3~7	5
*Therapeutic windows range from typically $\pm 50\%$ of given values.						
**The given values are calculated by point or effective treatment area (3 cm <sup>2</sup> ).						

# Therapy Protocol-3

Disease / Condition	Therapy Time (Minutes)				Frequency (Time/Week)	Dosage (J/cm <sup>2</sup> )
	Model	Klas-S50	Klas-S61	Klas-S81		
	Power Density (W/cm <sup>2</sup> )	0.01	0.02	0.015		
<b>Skin Diseases</b>						
Allergic Rashes		3	2		2~3	2
Aphthous Ulcers & Sore Gums		3	2		2~3	2
Burn & Related Wounds		5	3		1~3/day	3
Cellulitis		7	3		3~7	4
Couperose (mild)		3	2		2~3	2
Dermatitis: Allergic, Atopic, Contact		3	2		2~3	2
Eczema		3	2		2~3	2
Hypertrophic Cicatrix		7	3		3	4
Insect Bites		3	2		1~2/day	2
Pressure Sore		3	2		3~7	2
Psoriasis		7	3		2~3	4
Rosacea		5	3		3~7	3
Skin Eruption		3	2		2~3	2
Sunburn		3	2		2~3	2
Tinea Pedis		7	3		2~3	4
Vitiligo (Leukoderma)		7	3		2~3	4
Warts, Verruca		7	3		3	4
Wound, Operation Wound		7	3		1~3/day	4
Wound & Ulcers		5	3		1~3/day	3
*Therapeutic windows range from typically $\pm 50\%$ of given values.						
**The given values are calculated by point or effective treatment area (3 cm <sup>2</sup> ).						



# Therapy Protocol-4

Disease / Condition	Therapy Time (Minutes)				Frequency (Time/Week)	Dosage (J/cm <sup>2</sup> )
	Model	<i>Klas-S50</i>	<i>Klas-S61</i>	<i>Klas-S81</i>		
	Power Density (W/cm <sup>2</sup> )	0.01	0.02	0.015		
<b>Respiratory Tract and Ear, Nose, Throat</b>						
Rhinitis		7	3	5	3~7	4
Sinusitis		5	3	3	3~7	3
Tinnitus		33	17	23	3~7	20
<b>Other Symptoms and Prophylaxis</b>						
Hemorrhoid		10	5	7	1/Day	6
Gingival and Periodontal Disease		3	2	2	1/Day	2
Oral Ulcer		5	3	3	1/Day	3
Edema		10	5	7	1/Day	6
*Therapeutic windows range from typically $\pm 50\%$ of given values.						
**The given values are calculated by point or effective treatment area (3 cm <sup>2</sup> ).						

# Safety

## Important safety instructions

Follow all instructions and warnings dealing with your Klas.



## Warning

- Avoid direct eye exposure to the laser beam.
- Operation of this device, must always be supervised by an adult.

## Cleaning

Follow these general rules when cleaning the outside of your Klas and its components:

- Use a damp, soft, lint-free cloth.
- Use alcohol to clean the optic glass.
- Don't use aerosol sprays, solvents or abrasives.



## Avoid direct sunlight

Protect your Klas from long time direct sunlight.



## Do not make repairs yourself

No user-serviceable parts are inside.

## About handling

Your Klas may be damaged by improper storage or handling. Be careful not to drop your Klas when treating or transporting the device.

## About operating and storage temperatures

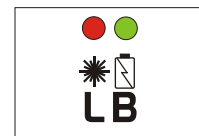
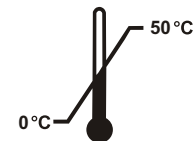
- ☑ Operate your Klas in a place where the temperature is always between 0 and 50° C (32 to 122° F).
- ☑ Store your Klas in a place where the temperature is always between -20 and 85° C (-4 to 185° F).

## Troubleshooting

### My Klas won't turn on

- ☑ Make sure Klas's power switch is on.
- ☑ If that doesn't work, check the position of battery in Klas.
- ☑ If that doesn't work, loosen the bottom cap and fasten again.
- ☑ For Klas-S81 only, if both LEDs' do not light, replace the new batteries.

**If that doesn't work, contact your local sales office.**



## Learning more, service and support

There is a wealth of information about using Klas on the Web. For the latest information on Klas service and support information go to [www.konftec.com](http://www.konftec.com)

## Obtaining warranty service

If the product appears to be damaged or does not function properly, please follow the advice in this booklet, and the online resources. If the unit still does not function, go to [www.konftec.com](http://www.konftec.com) for instructions on how to obtain warranty service.



**Konftec Corporation**

12F-7, No.77, Sintai 5th Rd., Sec. 1,  
Sijhih District, New Taipei City 221  
Taiwan

[www.konftec.com](http://www.konftec.com)

© 2013 Konftec Corporation. All rights reserved.

Konf, the Konf logo and Klas  
are trademarks of Konftec Corporation,  
registered in Taiwan and  
other countries.

UKS\_30401E

