USER MANUAL

OPERATING LAMPS

LD05.06 OPERATING LAMP, MOBIL
LD10.01 OPERATING ROOM CEILING LAMP - DIGITAL SINGLE
LD15.11 OPERATING ROOM CEILING LAMP - ANALOG SINGLE
LD10.02 OPERATING ROOM CEILING LAMP - DIGITAL DUAL
LD15.22 OPERATING ROOM CEILING LAMP - ANALOG DUAL
LD10.03 OPERATING ROOM CEILING LAMP - DIGITAL
LD15.33 OPERATING ROOM CEILING LAMP - ANALOG
LD20.19 OPERATING ROOM CEILING LAMP WITH 19” MONITOR
LD20.24 OPERATING ROOM CEILING LAMP WITH 24” MONITOR
LD20.52 OPERATING ROOM CEILING LAMP WITH MONITOR
LD20.53 OPERATING ROOM CEILING LAMP, ARM MOUNTED MONITOR

CE

Digitally signed by Vidiborschii Vladimir
Date: 2023.04.14 16:14:23 EEST
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Location: Moldova

INSPITAL

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Copyright

CE Compliance Declaration

Operating Lamps meet requirements set forth in “General Rules for Electrical Medical Devices” EN 60601-1, EN 60601-2-41, and Medical Devices Directive MDD/93/42/EEC.

Notified Body Information

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Patent

Trade name and mark belong to INSPITAL Inc.

Warranty Period

INSPITAL branded LED Lamps are under guarantee for 2 (two) years against material, workmanship and production faults including all the parts unless it is used as shown in the user guide. Below mentioned situations are out of the scope of guarantee:

1. Faults and damages caused by usage errors,
2. Faults and damages occurred during the loading, unloading and transportation after the delivery of the product to the customer,
3. Faults and damages that may arise due to the brown out or voltage rise; faulty electrical installation, using the device at a voltage level different from the written voltage values on the label of the product,
4. Faults arising from using the product non-compliantly to the matters specified in the user guide.

Thank you for purchasing INSPITAL branded Operating Lamp. Our product is rigorously designed and produced in order to provide you the best quality and performance. Please read all the information regarding operation and safety of this device cautiously and keep this manual as a future reference guide.

This guide describes the Installation, Operation, Cleaning and Maintenance steps for INSPITAL branded Operating Lamp.

Points to consider during transportation and handling

Please consider the instructions written on the device packages during transportation and handling.

Matters regarding to maintenance and repair

Please call the authorized device service for the cases requiring maintenance and repair.

Information regarding to connection and assembly

Please consult to the consequent departments for connection and assembly information.

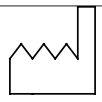
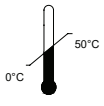
In order to have the lights used by providing the safety of the patient and the user and to have their maintenance done:

- Before taking the light into operation, be sure that this user guide is read and understood together with all the warnings and explanations.
- Buyer is responsible for ensuring that the personnel, who is responsible for use and maintenance of Pendant System, is informed of content of this user's manual.
- Keep this user guide at such a place that the personnel responsible for the operation and maintenance of the light can reach.
- Do not use the light except the purposes specified in this guide.
- Perform the maintenance of the light as shown in the figure in Part 8.1 Maintenance.
- INSPITAL R&D department reserves the right to change and/or delete the technical properties of the device and the information given in this user guide.

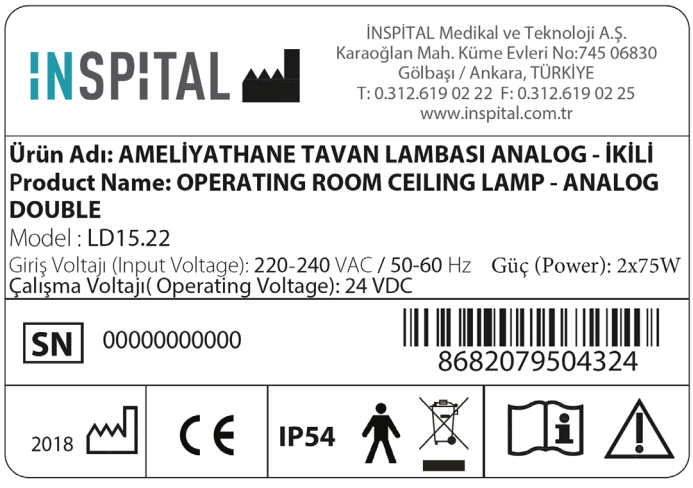
CAUTION!

- Do not operate the device before you read the user guide.
- The device should only be used by authorized personnel.
- Comply with the warnings and instructions given in the user guide. The device should only be used by authorized personnel.

3.1SYMBOLS AND EXPLANATIONS

Symbols	Description	Symbols	Description
	Type B device		Dangerous voltage
	Caution! Consult to the accompanying documents.		Protective grounding
	Casing can only be opened by trained service personnel		Equipotentiality
	AP Category Device according to IEC 601		Do not carry by holding from here.
IPX4	Protection stages provided by the casings according to IEC 529		Do not invert.
	Maximum carriage capacity		Do not invert.
	Comply to MDD 93/42/EEC Medical Devices Ordinance		Caution! Fragile
	Date of production		Ambient Temperature

3.2.1. SAMPLE LABEL



CAUTION!

No amendments should be done on the device label and the label should not be re moved.

4.1. PHYSICAL ENVIRONMENT

Ambient temperature: 0°C ~ +50°C
Humidity: %40

Operating lamp is dispatched by supporting with soft materials inside the package. After the light is delivered;

- Carefully open the closed box from its appropriate locations.
- Carefully remove the nylon packaging.
- Carefully inspect the operating lamp and its accessories and determine whether they are damaged during transportation or not. If they are damaged during transportation, consult to the relevant sales point for your operating lamp and/or accessories.
- Carefully remove the accessories from their packaging.
- Store the operating lamp inside a box only by adding up maximum two boxes.

CAUTION!

The direct contact of other devices (aspirator, cautery ,etc) that are present in the environment where the operating room light is used with the light casing. Otherwise it may damage the light casing.

4.2.HANDLING CONDITIONS

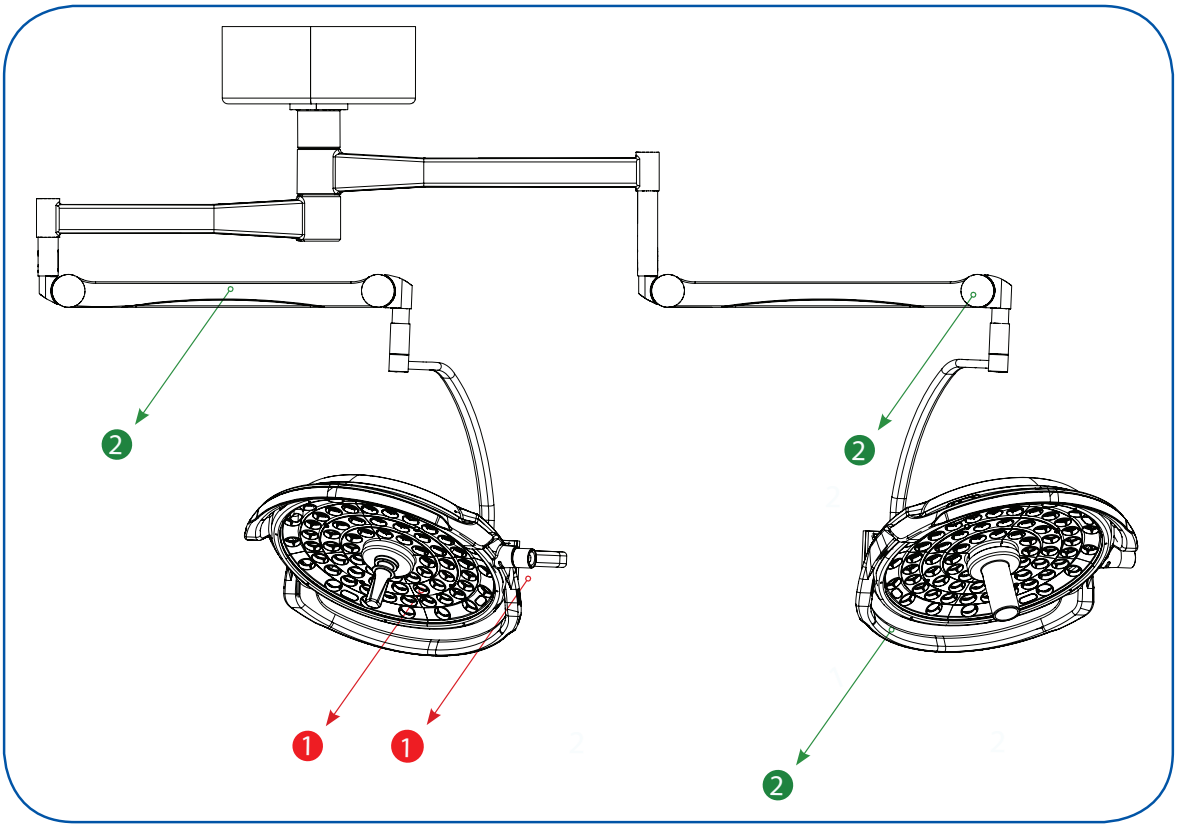


Figure 1

CAUTION!

While opening the nylon packaging of the operating lamp; never use sharp objects such as knives etc. otherwise you may damage the operating lamp.

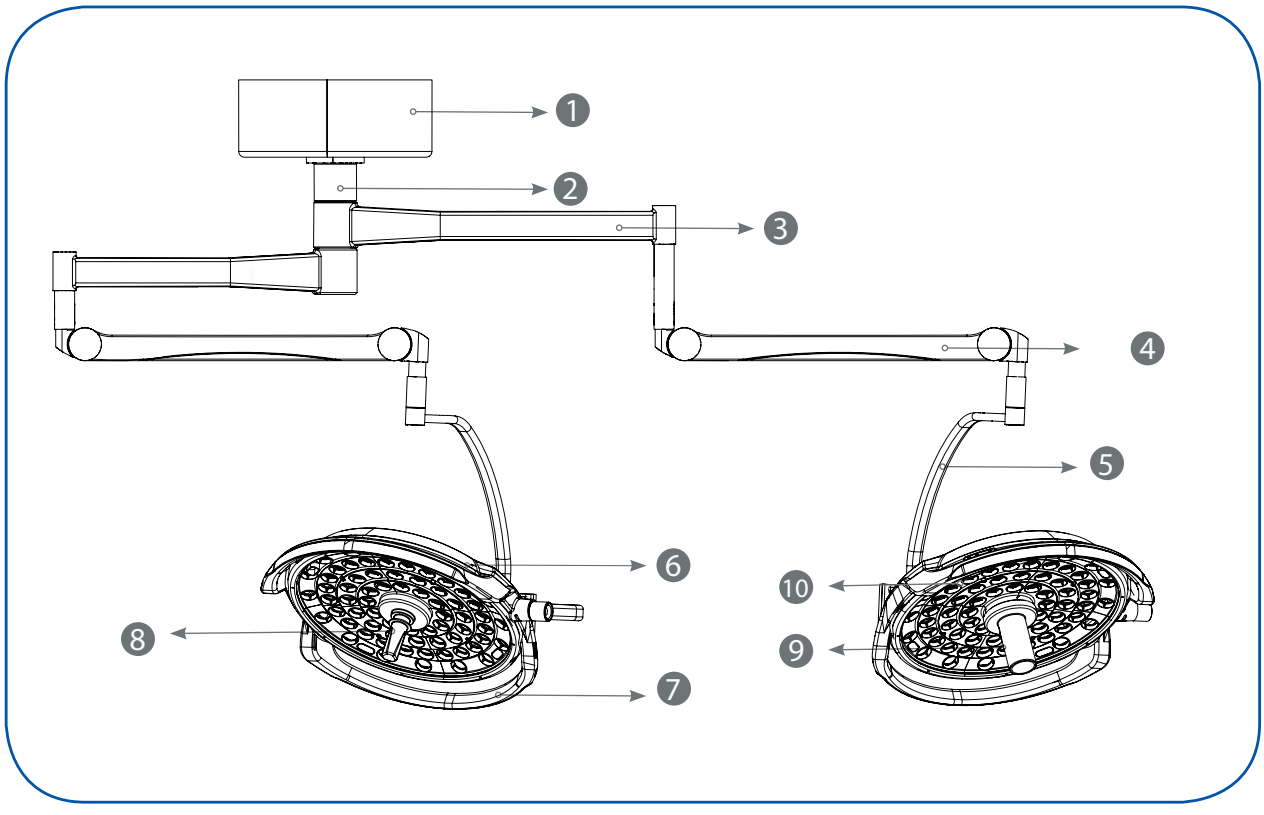
Never carry the operating lamp by supporting from no. 1 locations shown in figure 1. In order to carry the operating lamp by supporting from no. 2 locations shown in figure 1.

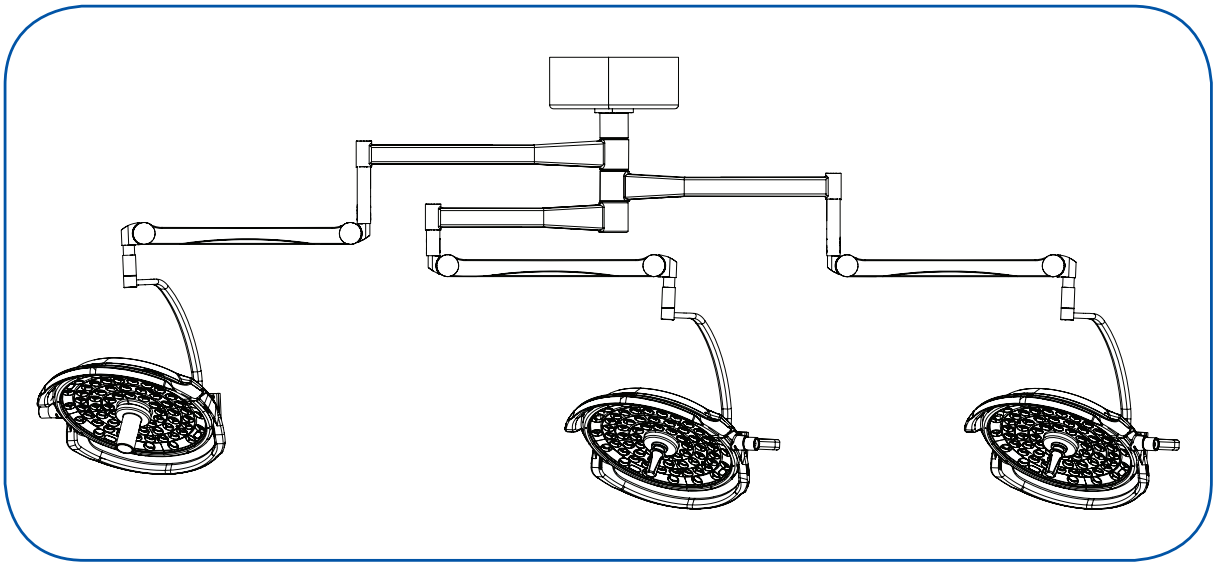
5.1. INTENDED PURPOSE and PLACES OF USAGE

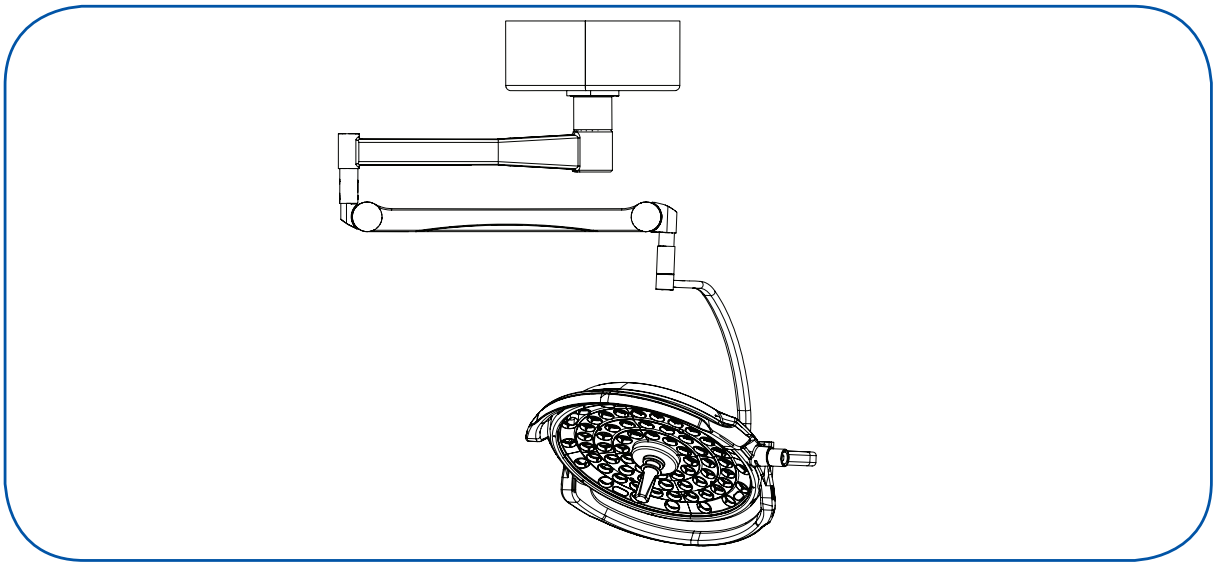
INSPITAL branded operating lamps;

- provide to view a real-like a detailed operation area,
- provide bright, shadeless, reliable and high-quality lightening due to its versatile special reflector system,
- provide flexible movement capability and perfect positioning opportunities due to its arms connected to a single center and its rack,
- provide to monitor the educational surgeries and to record and document them by its camera and monitor options,
- The light armature is designed to provide opportunity for the movement of the light cover and arranged in order to stay fixed where the light cover is left.

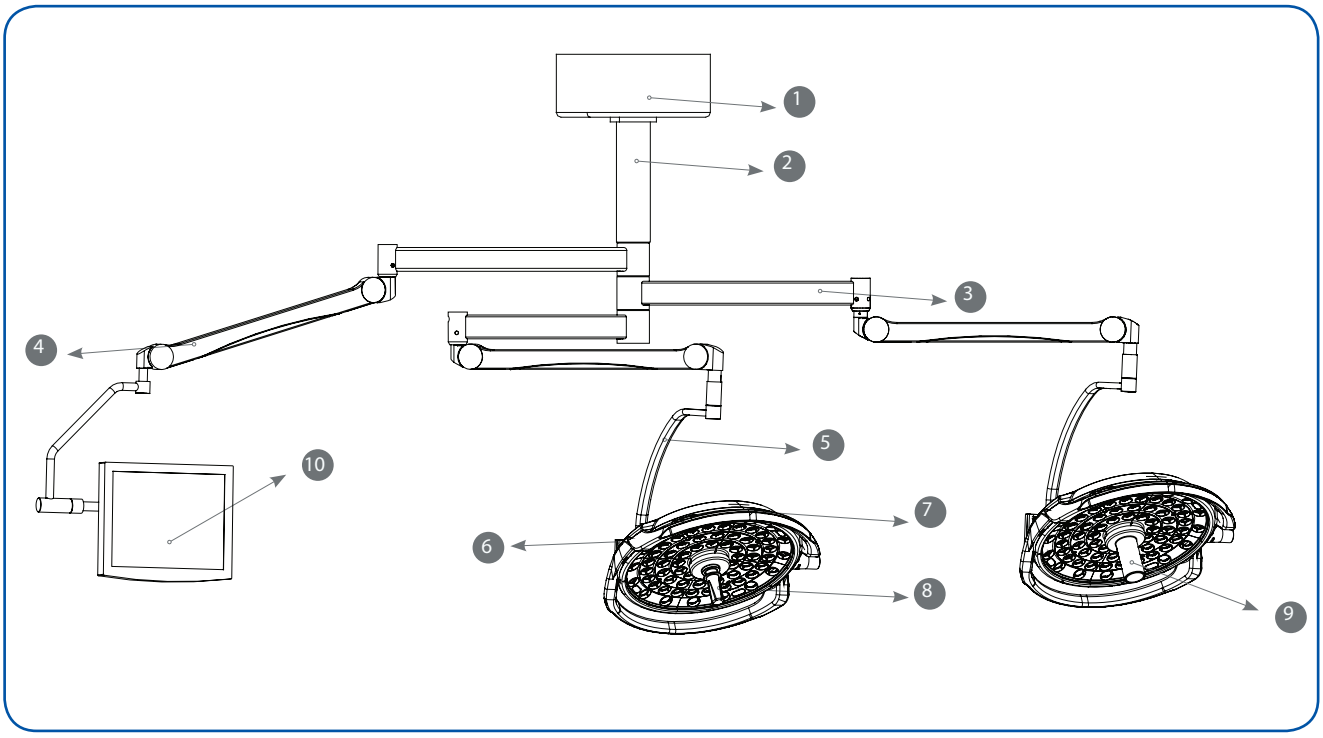
5.2. DEVICE and PART DESCRIPTIONS







OPERATING LAMPS			
PART NO	PART NAME	PART NO	PART NAME
1	HOOD	6	CONTROL PANEL
2	FIXED CONVEYOR	7	LİGHT COVER
3	HORIZONTAL ROTARY ARM	8	LİGHT HANDLE
4	SPRING LEVER	9	CAMERA (OPTIONAL)
5	SEMILUNAR (STABILIZER) ARM	10	LEDS



OPERATING LAMPS			
PART NO	PART NAME	PART NO	PART NAME
1	HOOD	6	CONTROL PANEL
2	FIXED SUPPORT	7	LAMP HEADGEAR
3	HORIZONTAL ROTARY ARM	8	LAMP (FOCUSING) HANDLE
4	SPRING ARM	9	CAMERA (OPTIONAL)
5	HALF MOON (BALANCE) ARM	10	MONITOR (OPTIONAL)

DİKKAT!
No. 9 and 10 camera and monitor connections are performed optionally.

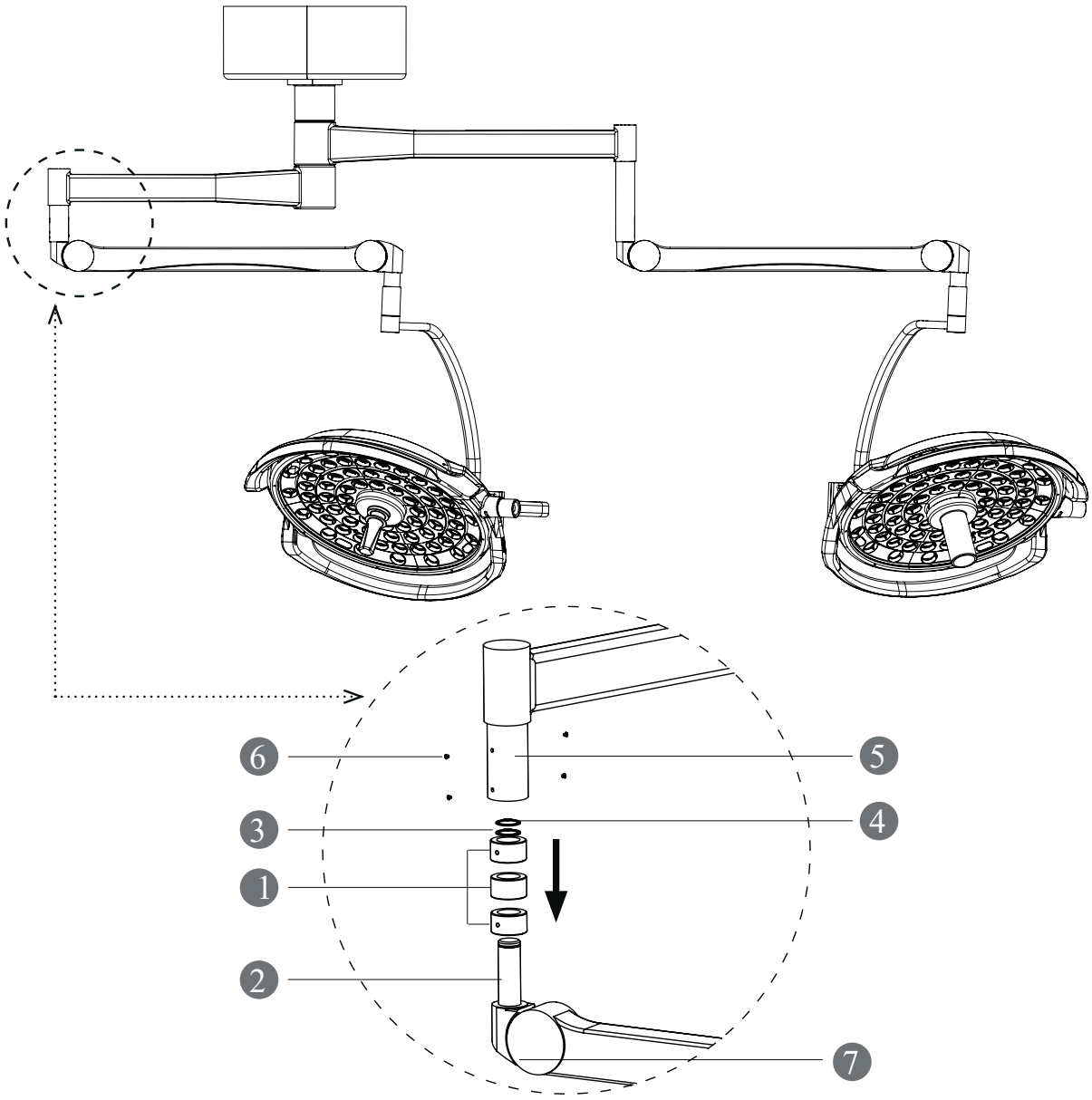
5.3 TECHNICAL PROPERTIES

Titles	Main Lighthead
Lightening cap	600 mm
Light power, 1 m	160.000 lux
Color separation index, CRI	>96
Light intensity adjustment	1 – 100 %
Temperature increase in the surgical area	< 0,5 0°C
LED module quantity	68
LED life	>50.000 hours
Total consumption	85 W
Lightening depth (light beam)	1300 mm
UV-radiation level	0,092 W/m2

Monitor Specifications	19" Monitör	24" Monitör
LCD Panels :	Aktif Matriks TFT LCD	Aktif Matriks TFT LCD
Viewing area	19"	24"
Resolution	1280 x 1024	1920 x 1200
Display ratio	05:04	16:10
Viewing angle	1700	178
Response	14 ms	14 ms

Camera Specifications
SONY HD Analog Cemera
1/2.8 type CMOS sensor
Full HD z1080p
30x optik zoom
Digital / Analog HD video output
Auto Focus

6.1.6 SPRING ARM ASSEMBLY

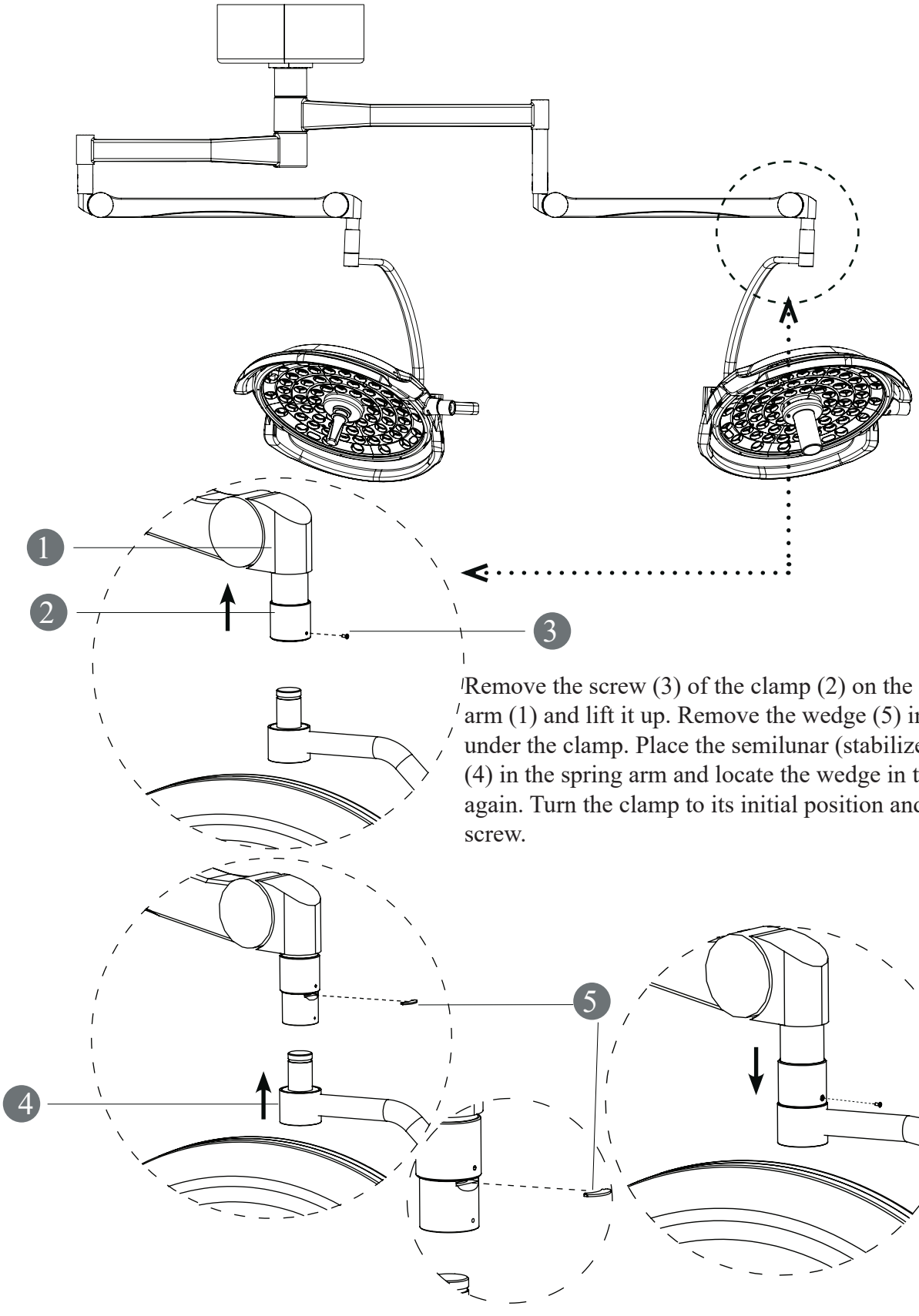


Fix the 3 set of clamps (1) from the light package to the shaft (2) at the end of the spring arm. Affix the washer (3) and the safety ring (4). Place the horizontal rotary arm (5) in the clamps and affix them with 4 screws (6).
At the end of this process; the electrical connections will be done with the sockets inside the shafts. In order to adjust the minimum and maximum movements of the ceiling height and the light, use No. 7 braking pin.

CAUTION!

Loosening, removing or misusing the braking pin (7) by the user may cause the complete elimination of the braking mechanism of the movable conveyor arms. The users should not interpose with the conveyor arms. In case of a fault; technical service should be called.

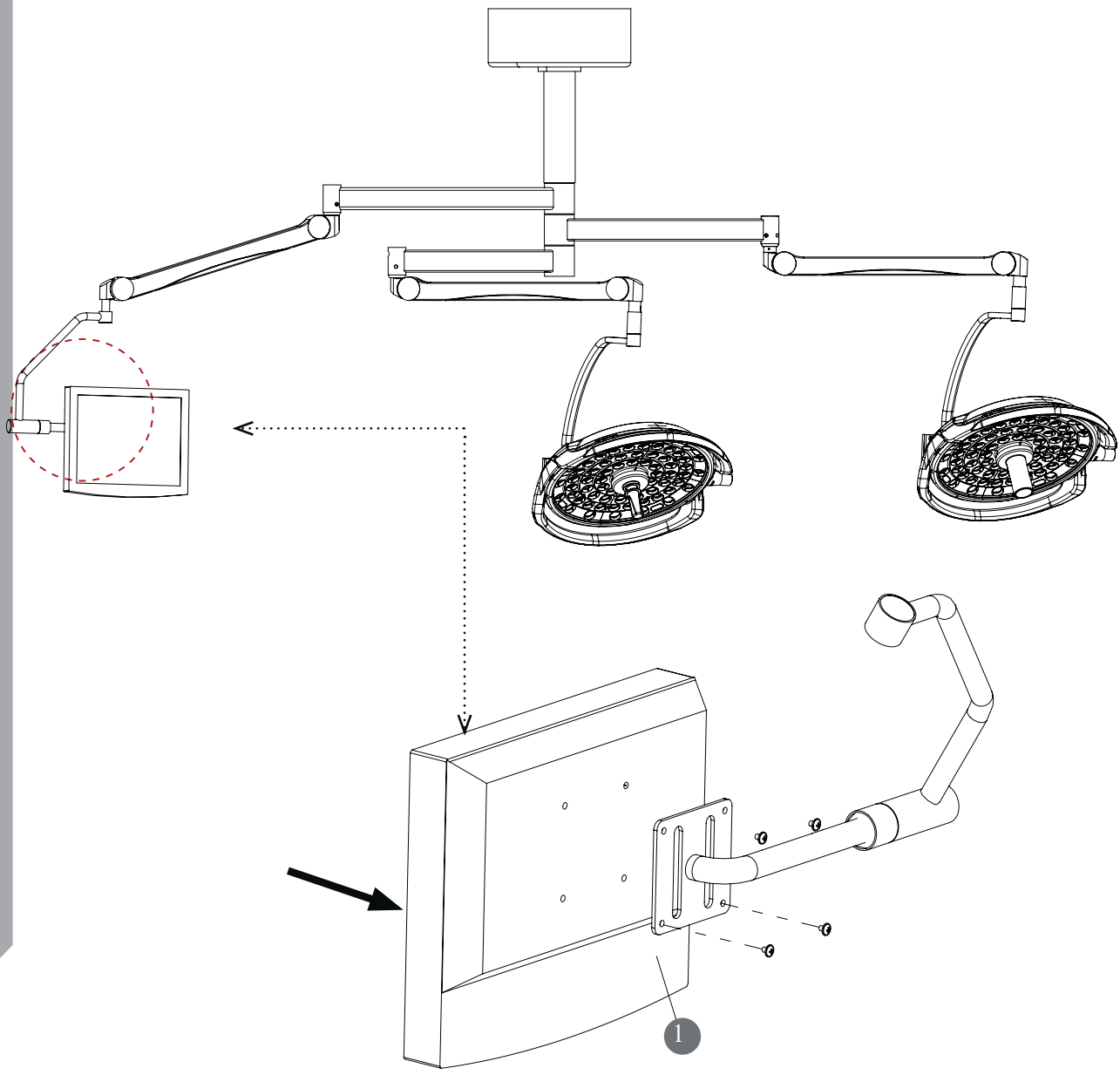
6.1.7 6. INSTALLATION AND USE



Remove the screw (3) of the clamp (2) on the spring arm (1) and lift it up. Remove the wedge (5) in the slot under the clamp. Place the semilunar (stabilizer) arm (4) in the spring arm and locate the wedge in the slot again. Turn the clamp to its initial position and affix its screw.

WARNING!
Removal of no. 5 wedge from its location may cause vibrational impacts or have the existing suspended mass to fall. In case the wedge is loosened or removed; notify the technical service. Provide the safety of the patient and the user.

6.1.8 (DUO LED CC) MONITOR ASSEMBLY



Mount the monitor to the arm flange and connect it with screws. Connect the cables that come out of the arm to appropriate monitor outlets. Connect the upper arm of the monitor as the arms of other lamp headgear.

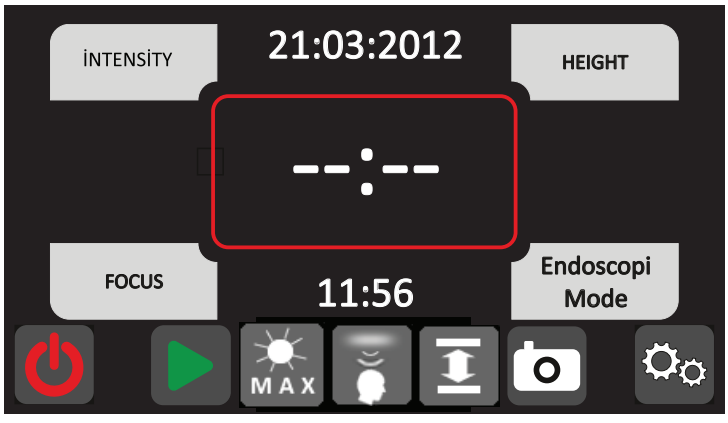
DİKKAT

Monitor no. 1 is supplied optionally and should be assembled as shown.

6.2. CONTROL PANEL DESCRIPTION

SYSTEM OFF

SPLASH SCREEN

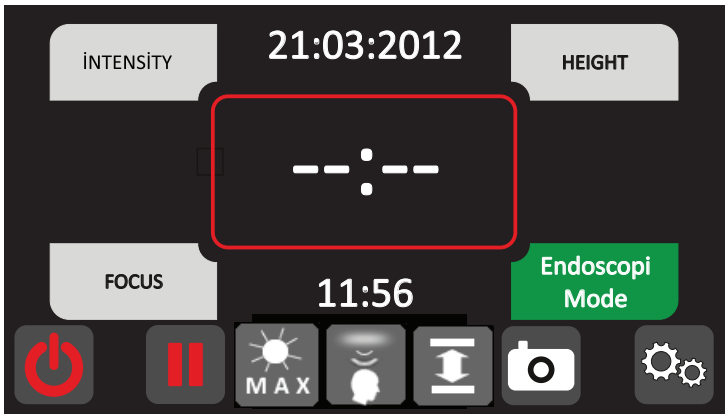


CLICKED ON START KEY

LIGHT POWER SETTING

FOCUS SETTING

ENDOSCOPY MODE

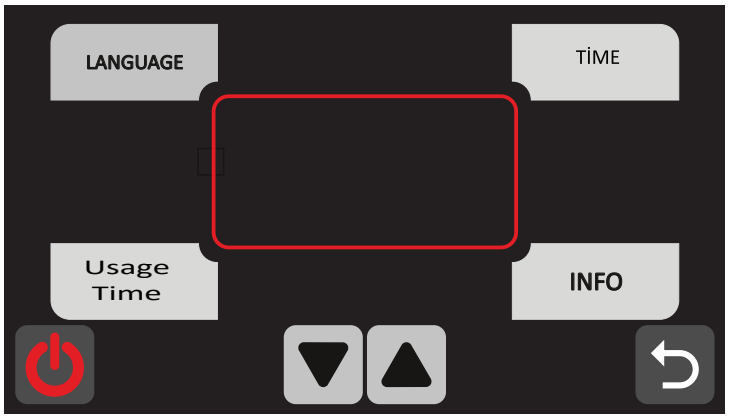


HEAD SENSOR OFF

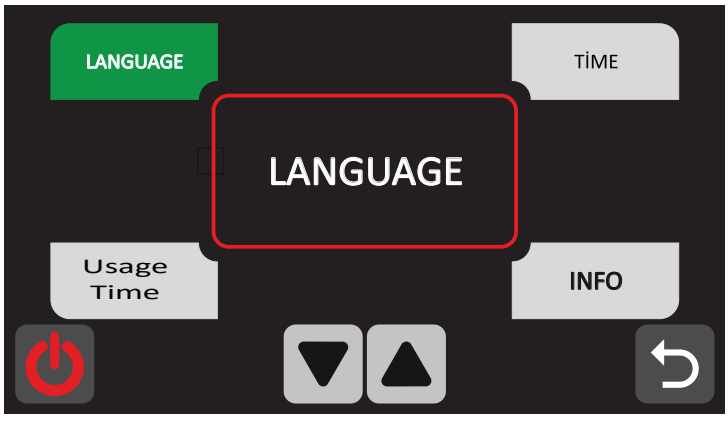
FOR AUTOMATIC LIGHT SETTING
ACC. TO THE HEIGHT

CAMERA ON

SERVICE SCREEN

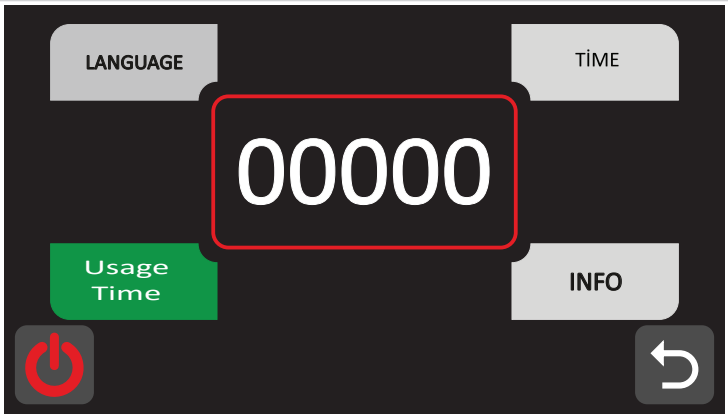


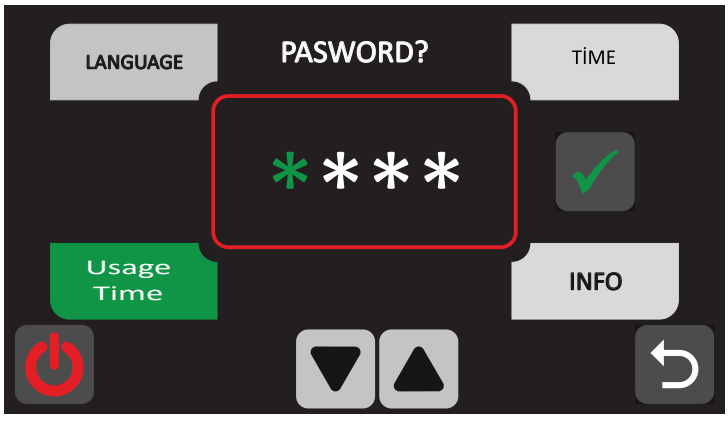
LANGUAGE OPTION



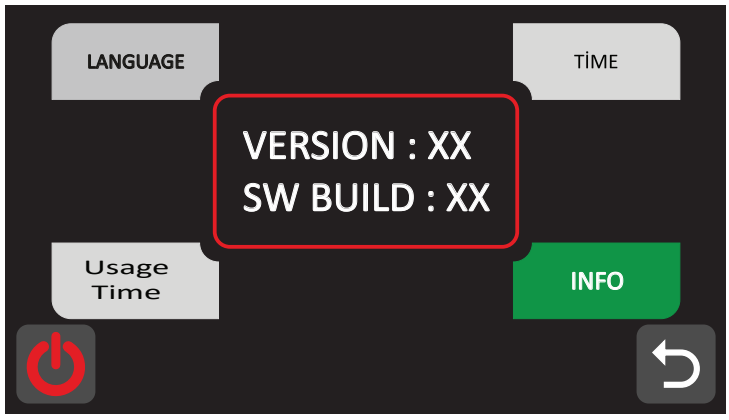
TIME SETTING

LIFETIME RESETTING





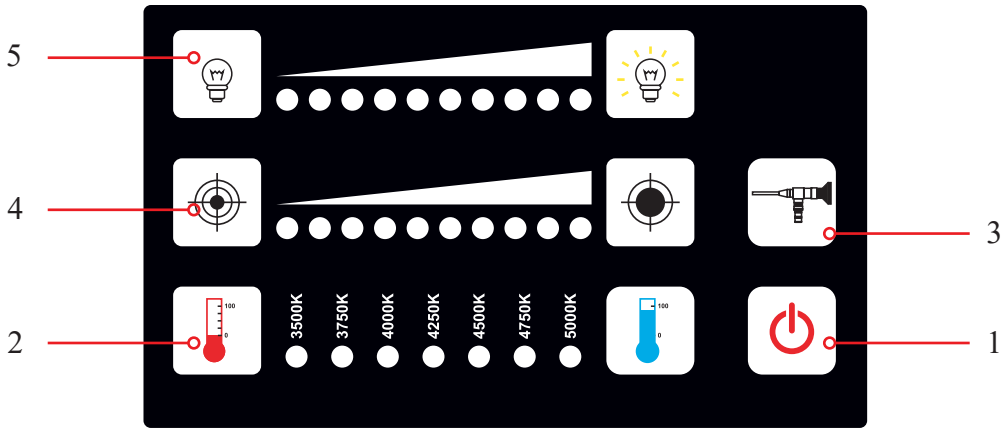
INFO SCREEN



HEAD SENSOR ON

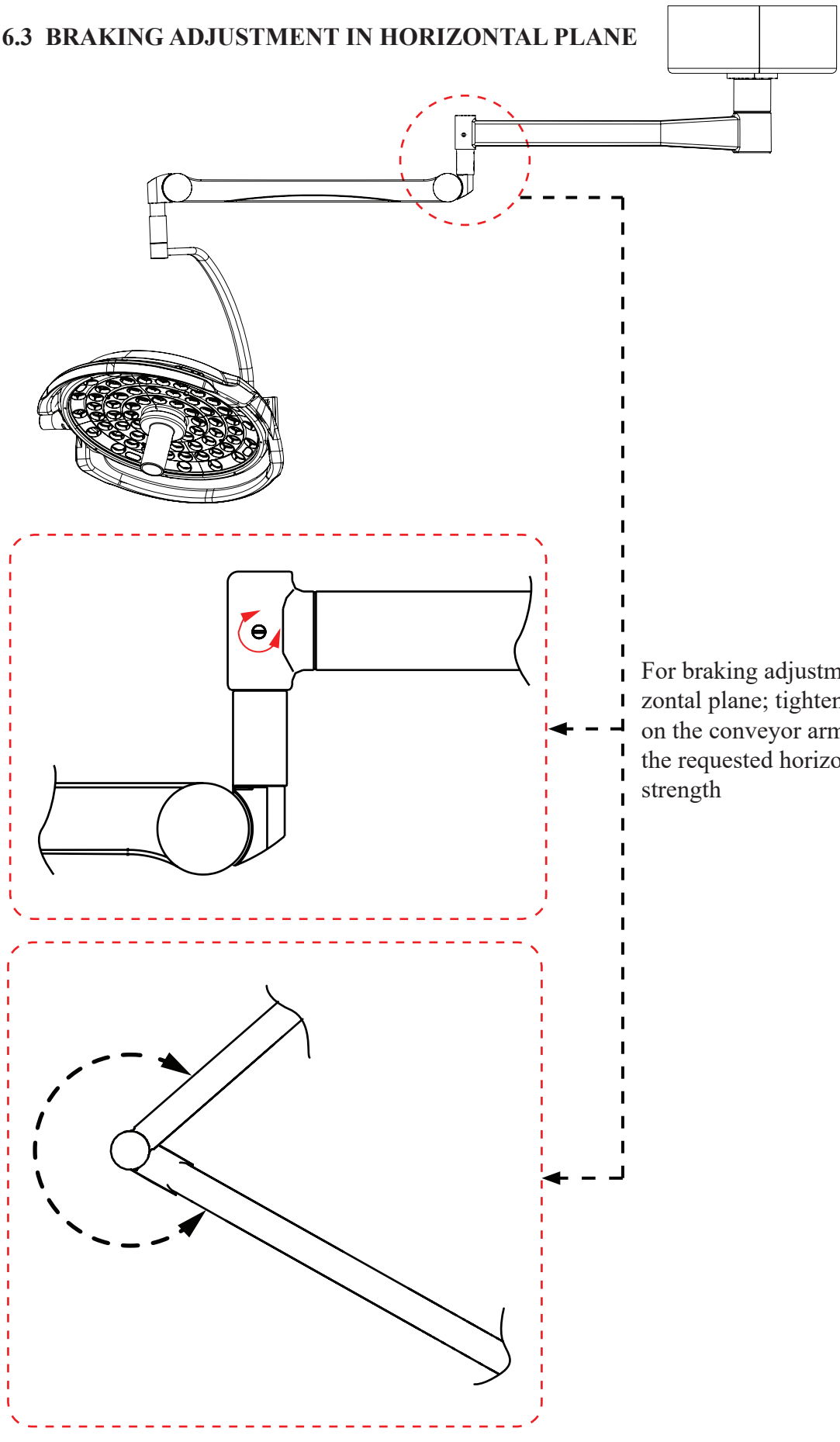
FOR SINGLE KEY 100% LIGHT POWER

6.3. INTRODUCTION OF ANALOGUE CONTROL PANEL



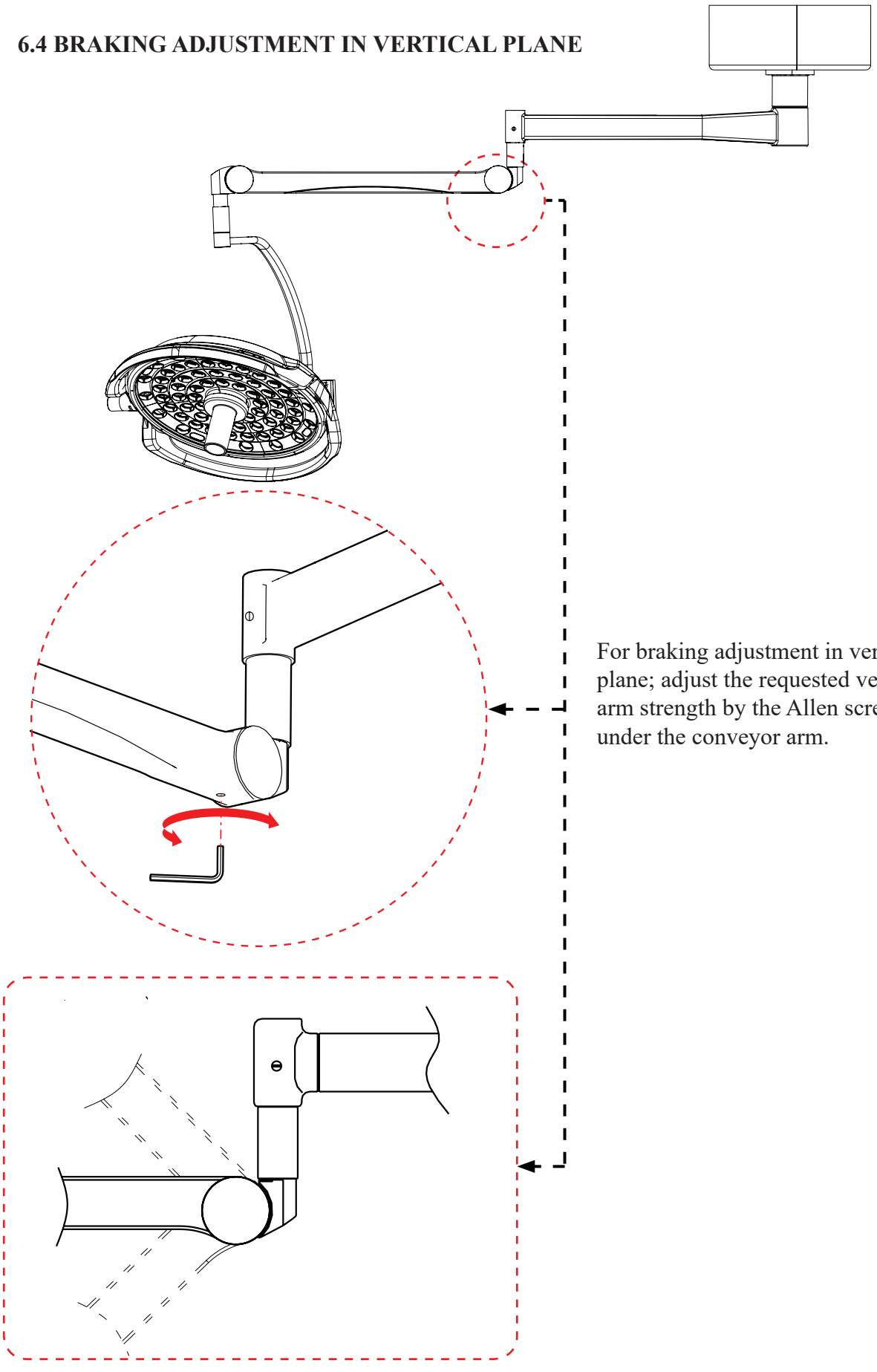
NO	PARAMETER	FUNCTION
1	On-Off	Used for turning on and off the lamp
2	Color temperature	To adjust color temperature between 3500-5000K arasında değiştirir.
3	Endoscopy	To enable endoscopy mode
4	Focus	Used for adjusting focus diameter
5	Illumination level	To adjust illumination level

6.3 BRAKING ADJUSTMENT IN HORIZONTAL PLANE



For braking adjustment in horizontal plane; tighten the screw on the conveyor arm according to the requested horizontal rotation strength

6.4 BRAKING ADJUSTMENT IN VERTICAL PLANE



For braking adjustment in vertical plane; adjust the requested vertical arm strength by the Allen screw under the conveyor arm.

CAUTION!

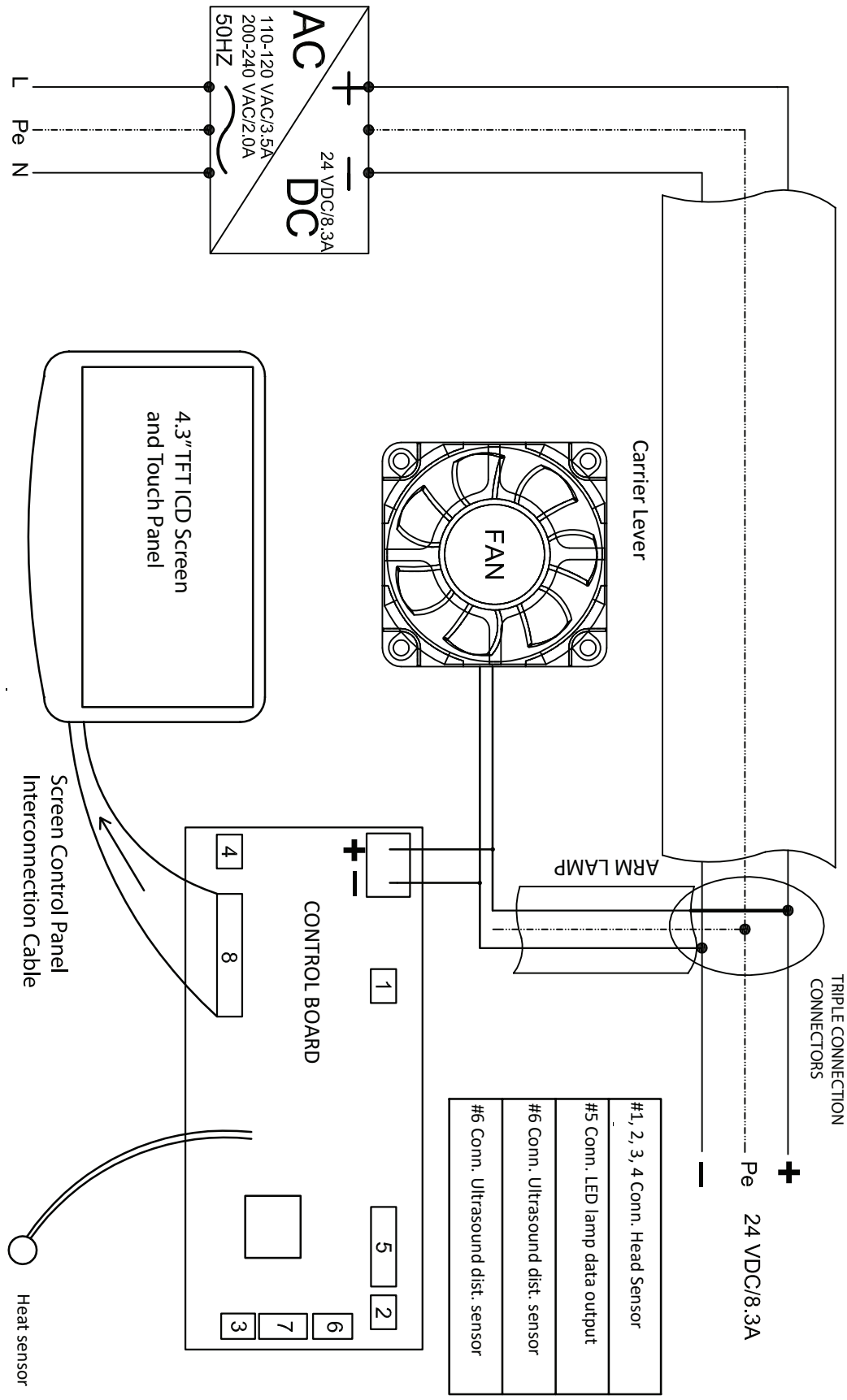
For the operating room lights; the led ampoules with the properties specified in “Technical Properties” section of this guide. Using ampoules with different properties may cause temperature rises and may harm the patient and the user. In case there is any cracks, fractures and holes on the transparent plastic of the light lightening cap; the internal part of the light will become eligible for microorganism reproduction. Thus in case of the cracks, fractures and holes on the external side of the light; the material should be replaced with a new one.

8.3. POSSIBLE FAILURES AND REMEDIES

Please contact to our authorized technical service for other information that may help you for the operating lamp components and their repairs.

Failure	Causes	Remedies
1- Indicator on the control panel does not lit	1- Indicator on the control panel does not lit	•Turn on the switch on the operation panel •Control the transformer warning light whether it is on or off. If off, replace the transformer. •If the warning light is on, control the cables on the arms. •In case the failure is not solved, consult to the authorized service.
2- Lamp couldn’t be fixed and changes its position by itself	2- The brakes might be loose.	The brakes must be tightened and control.
3- Control box or operation panel defective	3- Control box or operation panel defective	Inform our company or Regional Failure Service.

8.4 ELECTRIC CIRCUIT DIAGRAM



9. RECYCLING

If you will dispose or replace your operating lamp, then check recyclability of each part of it. Accessory frame is predominantly made of ABS plastic and aluminum. Both are recylable materials.
In order to obtain further information about recycling please consult to relevant companies and plants or visit the sites on internet that give information on recycling.

10. AUTHORIZED SERVICES

Ankara – Headquarters / Production Plant

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