

intralux® 5100

User's Manual

72-6196

72-6198 (Swiss Plug)



HARVARD

A P P A R A T U S

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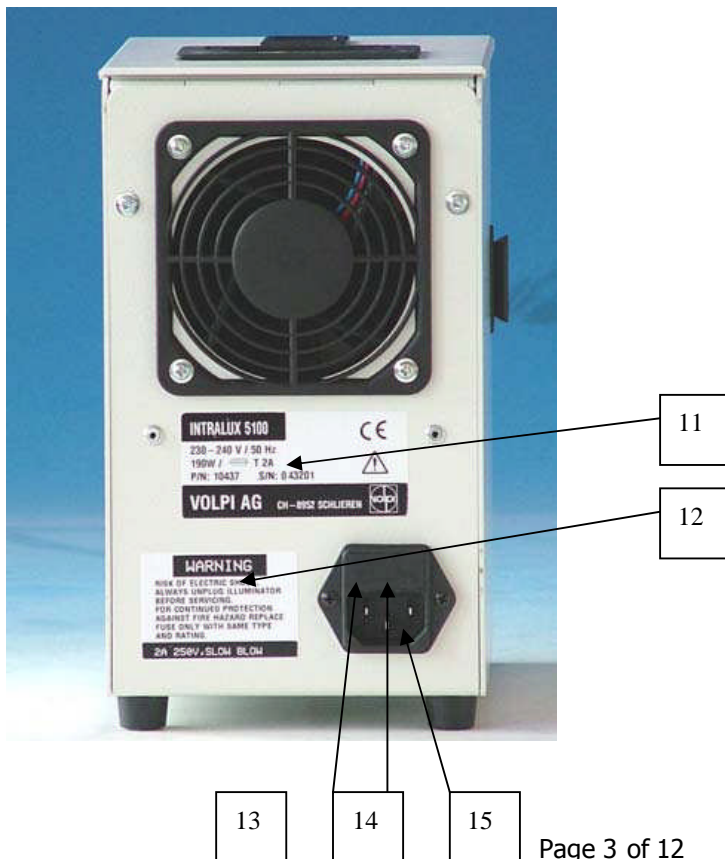
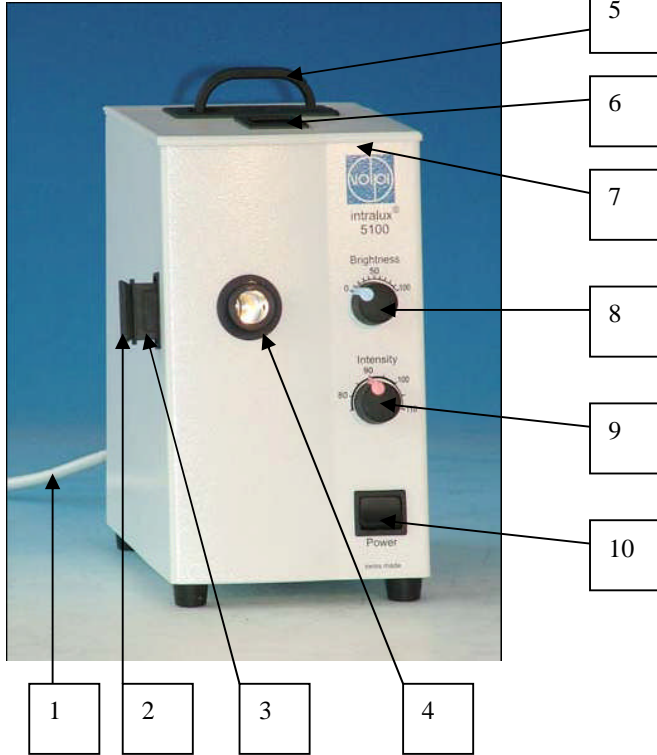
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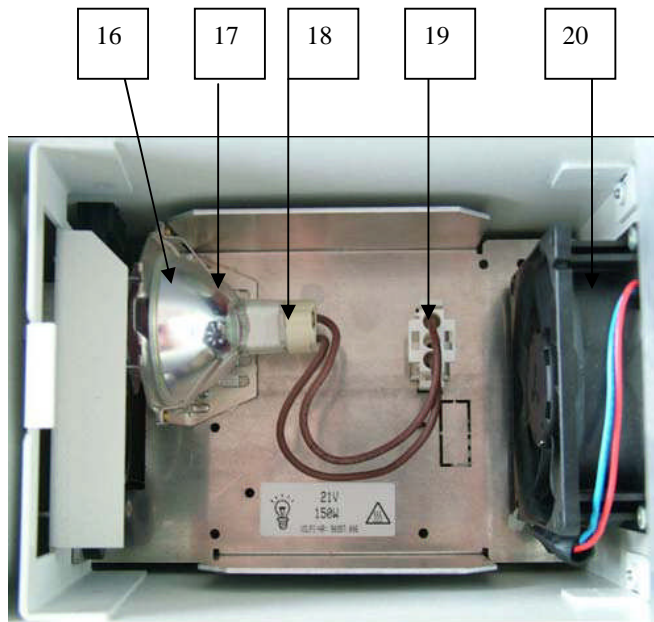
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1 INSTRUMENT OVERVIEW





LEGEND **Description**

- | | |
|----|---|
| 1 | Power cable |
| 2 | Filter holder without filter (color filters on request) |
| 3 | Filter holder receptacle |
| 4 | Light guide receptacle |
| 5 | Carrying handle |
| 6 | Sliding lock |
| 7 | Top cover |
| 8 | Brightness control knob (crescent shaped diaphragm) |
| 9 | Intensity control knob (electrical lamp intensity setting, 8 steps) |
| 10 | Power switch |
| 11 | Type plate |
| 12 | Warning plate |
| 13 | Fuse holder |
| 14 | Fuses (2 pieces) for: <ul style="list-style-type: none"> • 230V mains: 2A slow blow 250V - p/n 90045.112 • 121V and 100V mains: 2A slow blow 250V - p/n 2421.01 |
| 15 | Appliance plug socket |
| 16 | Lamp holder |
| 17 | Halogen reflector lamp - p/n 13695 |
| 18 | Lamp socket - p/n 10435.110 |
| 19 | Lamp socket connector |
| 20 | Fan (DC) |

2. DESCRIPTION OF INSTRUMENT

2.1 Application

The ***intralux® 5100*** cold light source has been specially developed for the illumination of Stereo Microscopes and fulfils the most demanding requirements concerning safety and performance.

2.2 Features Of The Instrument

To satisfy increasing demands for lighting with high color fidelity, the ***intralux® 5100*** has been equipped with a specially developed **Crescent Shaped Diaphragm** giving manually operated brightness control which does not alter the color temperature of the lighting.

In addition to the mechanical light regulation there is a built-in **electrical 8 steps switch** which allows reducing the secondary lamp voltage from 110 to 75% increasing the average lamp life, but decreasing the color temperature: 110% intensity 100h / 105% 140h / 100% 200h / 95% 310h / 90% 520h / 85% 900h / 80% 1'700h / 75% 3'600h (calculated values in continuous operation)

The electrical reduction of the light intensity increases the lamp lifetime considerably! Therefore, we recommend working on 80 or 85% intensity setting.

2.3 Scope Of Supply

- ***intralux® 5100***
- Filter holder blank
- Power cable EURO-Schuko, CHF, USA (GB version not available)

2.4 Symbols Used



Caution

(Refer to accompanying documents) used to direct the user to the instruction manual where it is necessary to follow certain specified instructions where safety is involved.

In case of non-observance

- persons could be put at risk
- could cause dysfunction or device-damage



Heat

Lamps and heat sinks may emit extreme amounts of heat during and after operation. Approach and handle these and other potentially hot components with caution.

3. START UP AND OPERATION

3.1 Safety Measures

CAUTION: In order to prevent overheating of the instrument, always ensure that the ventilation slits are never obstructed by foreign objects.

3.2 Start Up

1. Before starting up, check that the voltage given on the type plate (11) is the same as the local power voltage.
2. Connect the power cable (1) to the appliance plug (20) and to the voltage outlet.
3. Plug the light guide into the light guide receptacle (4).
4. Switch the power switch (10) on, then the 0 is not visible.

3.3 Operation

1. Set the power switch (10) on, then the 0 is not visible.
2. Adjust intensity by the intensity control knob (9). This electric 8-steps intensity regulation changes the color temperature of the lamp but increases the lamp life.
3. When the intensity setting has been selected the light supply can be adjusted progressively by using the mechanical brightness control (8).
4. If the unit is not used according to the User's Manual of the manufacturer, the provided protection can be impaired.
5. Following accessories for the Intralux can be ordered with our sales agents or directly from Volpi USA: Color Filters, Ringlights, Gooseneck Light Guides, Incident Light Guides, Illumination Light Guides.

3.4 Checklist In Case Of Faults

Condition	Cause	Remedy	Remarks
no light	<ul style="list-style-type: none">- instrument fuses defective- plug not connected to electrical supply- light source not switched on- lamp defective- transformer defective	<ul style="list-style-type: none">- replace fuses- connect plug- switch on light source- replace lamp- return instrument to supplier	See paragraph 4.2 See paragraph 4.1

4. MAINTENANCE AND CLEANING

4.1 Halogen Lamp Replacement (P/N 13695)

CAUTION:



The Halogen lamp should be cooled down due to risk of burning!

Afterwards remove lamp from lamp holder with a cloth.

- a) Set the power switch (10) off, then the 0 is visible and disconnect the power cable (1) from the appliance plug socket (20) and from the voltage outlet.
- b) Push the sliding lock (6) back; open the top cover (7).
- c) Using a cloth, remove the defective halogen lamp (14) with the lamp socket (15) from the lamp holder (13) and disconnect it from the lamp socket (15).
- d) Replace the halogen lamp (14) with a new one of the identical type. Connect it to the lamp socket (15) and place it in the lamp holder (13). Push the new lamp down into the lamp holder (13) to a positive stop. **Do not touch the quartz or the inside of the reflector.**
- e) **Close the top cover (7). Push the sliding lock (6) to the rear then forward to lock the top cover (7).**
- f) Connect the power cable (1) to the appliance plug socket (20) and to the voltage outlet.
- g) Set the power switch (10) on, then the 0 is not visible.

4.2 Fuse Replacement (121V P/N 2421.01 / 230V P/N 90045.112)

- a) Set the power switch (10) off, then the 0 is not visible. Disconnect the power cable (1) from the appliance plug socket (20) and the voltage outlet.
- b) Pull the fuse holder (18) containing two operating fuses (19) from the spring loaded holder in the appliance plug socket (20).

- c) Remove defective operating fuse(s) and place fuse in the fuse holder (18) (according to the value on type plate). Buy new fuse(s) immediately.
- d) Connect the power cable (1) to the appliance plug (20) and to the voltage outlet.
- e) Set the power switch (10) on, then the 0 is not visible.

4.3 Lamp Socket Replacement (P/N 10435.110)

If the lamp socket (15) shows signs of burning and wear between the lamp pin contacts it must be replaced. We recommend a change after use of 5 lamps.

The lamp should be cooled down before it can be removed!

- a) Set the power switch (10) off, then the 0 is visible and disconnect the power cable from the appliance plug socket (20) and from the voltage outlet.
- b) Push the sliding lock (6) back; open the top cover (7).
- c) Remove the halogen lamp (14) according to 4.1.c)
- d) Pull out the defective lamp socket (15) from the lamp socket connector (16) by squeezing the double sided plastic part and replace it with a new one of the identical type and replace the halogen lamp (14) according to 4.1.d)
- e) **Close the top cover (7). Push the sliding lock (6) to the rear then forward to lock the top cover (7).**
- f) Connect the power cable (1) to the appliance plug (20) and to the voltage outlet.
- g) Set the power switch (10) on, then the 0 is not visible.

4.4 Transport

In order for instruments to be transported under normal freight conditions without being damaged, they should be transported and/or sent in their original packing. Jolts during transport are to be avoided.

4.5 Cleaning

The light source must only be wiped with a slightly moistened cloth. In no case must liquid be allowed to enter the instrument. Afterwards rub dry with a dry cloth.

If easily flammable solutions are used, the instrument must first be disconnected from the electrical power supply and allowed to cool down, as it could otherwise catch fire.

5. TECHNICAL DATA

Designation:	Cold Light Source <i>intralux® 5100</i>	
Part No.	10438 <i>intralux® 5100 USA</i>	120V/60Hz
	10437 <i>intralux® 5100 EURO</i>	230-240V/50Hz
	10440 <i>intralux® 5100 CH</i>	230-240V/50Hz
	10441 <i>intralux® 5100 JAP</i>	100V/60Hz

Power consumption:	200W
Fuses for 230V unit	2A slow blow 250V (2pcs.) P/N 90045.112
Fuses for 121V unit	2A slow blow 250V (2pcs.) P/N 2421.01
Lamp type:	EKE 21V/150W Halogen reflector lamp P/N 13695
Lamp lifetime (electrical Intensity setting):	110% 100h / 105% 140h / 100% 200h / 95% 310h / 90% 520h / 85% 900h / 80% 1'700h / 75% 3'600h (average calculated values for continuous operation)
Spectrum:	400-700nm
Color temperature:	Approx. 3'433K at 110% intensity setting
Illumination Intensity:	Approx. 12,3M Lux (at light guide input/DIN 58141-10)
H x W x D:	215x120x200mm
Weight:	4.6 kg (net)

Site conditions for operation:

Temperature-Range:	5°C - 40°C
Relative humidity:	20% - 80%

Site conditions for transport and storage:

Temperature-Range:	-20°C - 60°C
Relative humidity:	20% - 80%

General information:

Over voltage category	II
Degree of pollution:	2
Protection class:	1

Approvals:

UL61010-1
CAN/CSA61010-1
CE
Product Safety: IEC/EN 61010-1:2001
EMC Emission: IEC/CISPR 11, Class B
EMC Immunity: IEC 61000-4-2 to 6 and 11